Author Search

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=> FILE HCAPLUS
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FILE COVERS 1907 - 26 Sep 2008  VOL 149 ISS 14
FILE LAST UPDATED: 25 Sep 2008  (20080925/ED)

HCAplus now includes complete International Patent Classification (IPC)
reclassification data for the second quarter of 2008.

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.
'OBI' IS DEFAULT SEARCH FIELD FOR 'HCAPLUS' FILE

=> D STAT QUE L39
L3                STR
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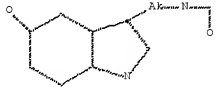


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L23               STR
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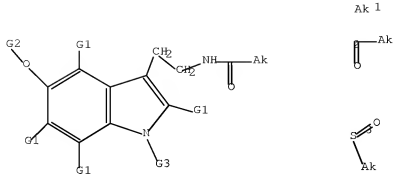

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G3 H,Cy,OH,[@1],[@2],[@3]

Structure attributes must be viewed using STN Express query preparation.

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L28	221	SEA	FILE=HCAPLUS ABB=ON	PLU=ON	SOMEI M?/AU
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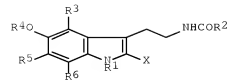
L30	8856	SEA	FILE=HCAPLUS ABB=ON	PLU=ON	SUZUKI N?/AU
L31	10039	SEA	FILE=HCAPLUS ABB=ON	PLU=ON	(L28 OR L29 OR L30)
L32	51	SEA	FILE=HCAPLUS ABB=ON	PLU=ON	L31 AND L27
L39	46	SEA	FILE=HCAPLUS ABB=ON	PLU=ON	L32 AND (PRY<=2005 OR AY<=2005 OR PY<=2005)

=> D IBIB ED ABS FHITSTR L39 1-46

L39 ANSWER 1 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2007:639777 HCAPLUS Full-text
DOCUMENT NUMBER: 147:64544
TITLE: Memory disorder preventing agents containing melatonins
INVENTOR(S): Hattori, Atsuhiko; Saito, Minoru; Miyashita, Tomoyuki
PATENT ASSIGNEE(S): Tokyo Medical and Dental University, Japan; Tokyo Metropolitan Organization for Medical Research
SOURCE: Jpn. Kokai Tokkyo Koho, 12pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2007145763	A	20070614	JP 2005-342946	20051128 <--
PRIORITY APPLN. INFO.:			JP 2005-342946	20051128 <--

OTHER SOURCE(S): MARPAT 147:64544
ED Entered STN: 14 Jun 2007
GI



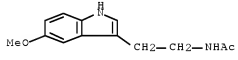
I

AB Title agents contain melatonin, its derivs., e.g. shown by I [X = halo, H; R1 = H, (un)substituted C1-6 alkyl, (un)substituted aryl, (un)substituted aralkyl, etc.; R2 = (un)substituted C1-21 alkyl; R3, R5, R6 = H, halo; R4 = H, (un)substituted C1-6 alkyl), their pharmacol. acceptable salts, or their solvates. Thus, feeding of melatonin-containing feed to Drosophila for 20 days significantly suppressed decrease in memory (conditioned avoidance to odor).

IT 73-31-4, Melatonin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(memory disorder preventing agents containing melatonin and its derivs.)

RN 73-31-4 HCAPLUS

CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 2 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:319103 HCAPLUS Full-text

DOCUMENT NUMBER: 144:343589

TITLE: α2 RECEPTOR BLOCKING AGENT CONTAINING INDOLE DERIVATIVE AS ACTIVE INGREDIENT AND VASODILATOR

INVENTOR(S): Somei, Masanori; Shigenobu, Koki; Tanaka, Yoshio

PATENT ASSIGNEE(S): National University Corporation Kanazawa University, Japan; The Toho University

SOURCE: PCT Int. Appl., 22 pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

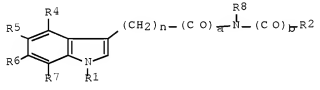
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006035617	A1	20060406	WO 2005-JP17109	20050916 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK,

SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

JP 2006089443 A 20060406 JP 2004-280104 20040927 <--
JP 3964417 B2 20070822

PRIORITY APPLN. INFO.: JP 2004-280104 A 20040927 <--
OTHER SOURCE(S): MARPAT 144:343589
ED Entered STN: 06 Apr 2006
GI

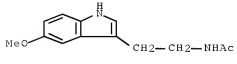


I

AB A compound having a simpler structure than yohimbine, which is a pentacyclic fused heterocyclic compound, and having an activity similar to that of yohimbine. Also provided is an α2 receptor blocking medicine or food composition containing either a compound represented by the formula : [Chemical formula I] (wherein R1 represents hydrogen, alkyl, alkenyl, alkynyl, an aromatic group, aralkyl, acyl, arylsulfonyl, alkylsulfonyl, or hydroxy; R2 represents a hydrocarbon group; R3, R4, R5, R6, and R7 are the same or different and each represents hydrogen, halogeno, alkyl, or alkoxy; R8 represents hydrogen or acyl; n is an integer of 1-6; and a and b are the same or different and each is 1 or 0) or a pharmaceutically acceptable salt thereof.

IT 73-31-4, Melatonin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(indole and melatonin derivs. as α2-adrenergic receptor antagonists and vasodilators)

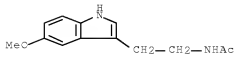
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 3 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:1100352 HCAPLUS Full-text

DOCUMENT NUMBER: 143:400146
TITLE: A role of melatonin in neuroectodermal-mesodermal interactions: the hair follicle synthesizes melatonin and expresses functional melatonin receptors
AUTHOR(S): Kobayashi, Hiromi; Kromminga, Arno; Dunlop, Thomas W.; Tychsen, Birte; Conrad, Franziska; Suzuki, Naoto; Memezawa, Ai; Bettermann, Albrecht; Aiba, Setsuya; Carlberg, Carsten; Paus, Ralf
CORPORATE SOURCE: Department of Dermatology, University Hospital Hamburg-Eppendorf, University of Hamburg, Hamburg, Germany
SOURCE: FASEB Journal (2005), 19(12), 1710-1712, 10.1096/fj.04-2293fje
CODEN: FAJOEC; ISSN: 0892-6638
PUBLISHER: Federation of American Societies for Experimental Biology
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 14 Oct 2005
AB Since mammalian skin expresses the enzymic apparatus for melatonin synthesis, it may be an extrapineal site of melatonin synthesis. However, evidence is still lacking that this is really the case in situ. Here, the authors demonstrate melatonin-like immunoreactivity (IR) in the outer root sheath (ORS) of mouse and human hair follicles (HFs), which corresponds to melatonin, as shown by RIA and liquid chromatog./tandem mass spectrometry (LC/MS/MS). The melatonin concentration in organ-cultured mouse skin, mouse vibrissae follicles, and human scalp HFs far exceeds the resp. melatonin serum level and is significantly increased ex vivo by stimulation with norepinephrine (NE), the key stimulus for pineal melatonin synthesis. By real-time PCR, transcripts for the melatonin membrane receptor MT2 and for the nuclear mediator of melatonin signaling, retinoid orphan receptor α (ROR)α, are detectable in murine back skin. Transcript levels for these receptors fluctuate in a hair cycle-dependent manner, and are maximal during apoptosis-driven HF regression (catagen). Melatonin may play a role in hair cycle regulation, since its receptors (MT2 and RORα) are expressed in murine skin in a hair cycle-dependent manner, and because it inhibits keratinocyte apoptosis and down-regulates ERα expression. Therefore, the HF is both, a prominent extrapineal melatonin source, and an important peripheral melatonin target tissue. Regulated intrafollicular melatonin synthesis and signaling may play a previously unrecognized role in the endogenous controls of hair growth, for example, by modulating keratinocyte apoptosis during catagen and by desensitizing the HF to estrogen signaling. As a prototypic neuroectodermal-mesodermal interaction model, the HF can be exploited for dissecting the obscure role of melatonin in such interactions in peripheral tissues.
IT 73-31-4, Melatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin synthesis and functional melatonin receptors expression in hair follicle of humans and mice in prototypic neuroectodermal-mesodermal interaction model)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

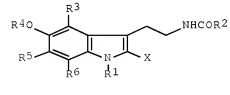


REFERENCE COUNT: 112 THERE ARE 112 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 4 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:1004558 HCAPLUS Full-text
DOCUMENT NUMBER: 143:306168
TITLE: Preparation of indole derivatives for treatment of osteoporosis
INVENTOR(S): Somei, Masanori; Hattori, Atsuhiko ; Suzuki, Nobuo
PATENT ASSIGNEE(S): Kanazawa University Technology Licensing Organization Ltd., Japan
SOURCE: PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005084664	A1	20050915	WO 2005-JP3743	20050304 <--
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
JP 2005289985	A	20051020	JP 2005-61080	20050304 <--
JP 4014052	B2	20071128		
US 20070197629	A1	20070823	US 2006-591899	20060907 <--
PRIORITY APPLN. INFO.:			JP 2004-64408 A	20040308 <--
			WO 2005-JP3743 W	20050304 <--

OTHER SOURCE(S): MARPAT 143:306168
ED Entered STN: 16 Sep 2005
GI



I

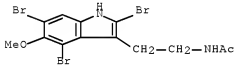
AB Title compds. represented by the formula I [wherein X = halo; R1 = H, (un)substituted alkyl, alkenyl, alkynyl, etc.; R2 = (un)substituted alkyl; R3, R5, R6 = independently H or halo; R4 = H or (un)substituted alkyl; and pharmaceutically acceptable salts thereof] were prepared for treatment of

osteoporosis. For example, reaction of I (X = R3 = R5 = Br, R2 = R4 = Me, R1 = H) with propargyl chloride gave I (R2-R6 are defined as above, R1 = CH.tplbond.CCH2) in 97% yield. The indole derivs. were tested for the influences received by bone cell (TRAP activity) and osteoblastic cell (ALP activity), and showed inhibition of osteoclast and activation of osteoblastic cell. Thus, I and their pharmaceutical compns. are useful for the treatment of osteoporosis.

IT 300662-21-9P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of indole derivs. for treatment of osteoporosis)

RN 300662-21-9 HCAPLUS

CN Acetamide, N-[2-(2,4,6-tribromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 21 THERE ARE 21 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 5 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:	2005:332805 HCAPLUS Full-text
DOCUMENT NUMBER:	142:460497
TITLE:	Daily and circadian variations of the pineal and ocular melatonin contents and their contributions to the circulating melatonin in the Japanese newt, Cynops pyrrhogaster
AUTHOR(S):	Chiba, Atsuhiko; Hattori, Atsuhiko; Iigo, Masayuki
CORPORATE SOURCE:	Life Science Institute, Sophia University, Tokyo, 102-8554, Japan
SOURCE:	Zoological Science (2005), 22(1), 65-70 CODEN: ZOSCEX; ISSN: 0289-0003
PUBLISHER:	Zoological Society of Japan
DOCUMENT TYPE:	Journal
LANGUAGE:	English

ED Entered STN: 19 Apr 2005

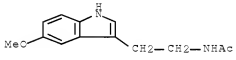
AB Daily and circadian variations of melatonin contents in the diencephalic region containing the pineal organ, the lateral eyes, and plasma were studied in a urodele amphibian, the Japanese newt (C. pyrrhogaster), to investigate the possible roles of melatonin in the circadian system. Melatonin levels in the pineal region and the lateral eyes exhibited daily variations with higher levels during the dark phase than during the light phase under a light-dark cycle of 12 h light and 12 h darkness (LD12:12). These rhythms persisted even under constant darkness but the phase of the rhythm was different from each other. Melatonin levels in the plasma also exhibited significant day-night changes with higher values at mid-dark than at mid-light under LD 12:12. The day-night changes in plasma melatonin levels were abolished in the pinealectomized (Px), ophthalmectomized (Ex), and Px+Ex newts but not in the sham-operated newts. These results indicate that in the Japanese newts, melatonin production in the pineal organ and the lateral eyes were regulated

by both environmental light-dark cycles and endogenous circadian clocks, probably located in the pineal organ and the retina, resp., and that both the pineal organ and the lateral eyes are required to maintain the daily variations of circulating melatonin levels.

IT 73-31-4, Melatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(daily and circadian variations of pineal and ocular melatonin contents and their contributions to circulating melatonin in Japanese newts)

RN 73-31-4 HCAPLUS

CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 6 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:15241 HCAPLUS Full-text

DOCUMENT NUMBER: 140:181285

TITLE: A novel preparation of 3-hydroxy-3H-indole-3-ethanamines and -3H-indole-3-acetamides having either a 4-morpholinyl or 1-pyrrolidinyl group at the 2-position

AUTHOR(S): Hayashi, Toshikatsu; Nakai, Yu-ya; Yamada, Fumio; Somei, Masanori

CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920-0934, Japan

SOURCE: Heterocycles (2004), 62, 437-444
CODEN: HTCYAM; ISSN: 0385-5414

PUBLISHER: Japan Institute of Heterocyclic Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 140:181285

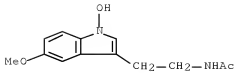
ED Entered STN: 09 Jan 2004

AB A novel synthetic method is discovered for 3-hydroxy-3H-indole-3- ethanamines and -3H-indole-3-acetamides having either a 4-morpholinyl or 1-pyrrolidinyl group at the 2-position by reacting the corresponding 1-hydroxyindoles with enamines in the presence of tosyl or mesyl chloride. A plausible mechanism is proposed.

IT 180910-62-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of (hydroxy)indoleethanamines and indoleacetamides having either morpholinyl or pyrrolidinyl group at 2-position from hydroxyindoles and enamines in presence of tosyl or mesyl chloride)

RN 180910-62-7 HCAPLUS

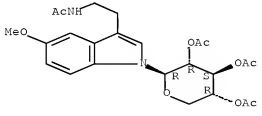
CN Acetamide, N-[2-(1-hydroxy-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 7 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:416527 HCAPLUS Full-text
DOCUMENT NUMBER: 140:128588
TITLE: Water-soluble melatonins: Syntheses of melatonins carrying a glycosyl group at the 1-position
AUTHOR(S): Iwaki, Takako; Fujita, Yasuaki; Yamada, Fumio; Somei, Masanori
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920-0934, Japan
SOURCE: Heterocycles (2003), 60(6), 1411-1418
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 140:128588
ED Entered STN: 01 Jun 2003
AB 1-(β-D-Xylopyranosyl)-, 1-(β-D-glucopyranosyl)-, 1-(β-D-galactopyranosyl)-, and 1-(α-D-arabinopyranosyl)- melatonins are prepared as water-soluble melatonins starting from melatonin.
IT 425376-24-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(watersol. melatonins syntheses of melatonins carrying glycosyl group at position)
RN 425376-24-5 HCAPLUS
CN Acetamide, N-[2-[5-methoxy-1-(2,3,4-tri-O-acetyl-β-D-xylopyranosyl)-1H-indol-3-yl]ethyl]- (9CI) (CA INDEX NAME)

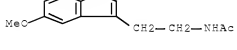
Absolute stereochemistry. Rotation (-).



REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 8 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:858855 HCAPLUS Full-text

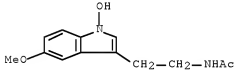
DOCUMENT NUMBER: 138:134154
TITLE: Melatonin suppresses osteoclastic and osteoblastic activities in the scales of goldfish
AUTHOR(S): Suzuki, Nobuo; Hattori, Atsuhiko
CORPORATE SOURCE: Noto Marine Laboratory, Institute of Nature and Environmental Technology, Kanazawa University, Ishikawa, 927-0553, Japan
SOURCE: Journal of Pineal Research (2002), 33(4), 253-258
CODEN: JPRSE9; ISSN: 0742-3098
PUBLISHER: Blackwell Munksgaard
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 13 Nov 2002
AB The effects of melatonin on osteoclastic and osteoblastic cells were examined using a culture system of the goldfish scale. Tartrate-resistant acid phosphatase (TRACP) and alkaline phosphatase (ALP) were used as markers of osteoclastic and osteoblastic cells, resp. In Earle's min. essential medium containing melatonin (10-9 to 10-5 M), activities of both enzymes in scales were significantly suppressed at 6 h after incubation (TRACP: 10-8, 10-6, 10-5 M; ALP: 10-7 to 10-5 M), but at 18 h only ALP activity was significantly lowered (10-8, 10-7 M). Estradiol-17β (E2) enhanced both activities, which were significantly inhibited and brought down to the level of the controls when co-incubated with E2 and melatonin (TRACP at 6 h: 10-9 to 10-5 M; ALP at 6 h: 10-7 M; ALP at 18 h: 10-8 M). Moreover, using reverse-transcription polymerase chain reaction, the mRNA expression of the estrogen receptor (ER) and insulin-like growth factor (IGF)-1, which are related to osteoblastic growth and differentiation, was decreased in the melatonin-treated scales. These results suggest that melatonin acts directly on the scale osteoclastic and osteoblastic cells where it suppresses the ALP activity via down-regulation of ER and IGF-1 mRNAs expression. This is the first report on the function of melatonin in osteoclasts and on the suppressive effect of melatonin in osteoblasts among vertebrates.
IT 73-31-4, Melatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin suppresses ALP activity via down-regulation of ER and IGF-1 mRNAs expression in scale osteoclastic and osteoblastic cells of goldfish)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

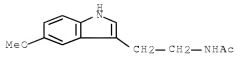
L39 ANSWER 9 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:218429 HCAPLUS Full-text
DOCUMENT NUMBER: 137:109179
TITLE: Nucleophilic substitution reaction on the nitrogen of indole nucleus: a novel synthesis of 1-aryltryptamines
AUTHOR(S): Hayashi, Toshikatsu; Peng, Wu; Nakai, Yu-Ya; Yamada,

Koji; Somei, Masanori
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920-0934, Japan
SOURCE: Heterocycles (2002), 57(3), 421-424
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 137:109179
ED Entered STN: 22 Mar 2002
AB 1-Hydroxytryptamine derivs. undergo nucleophilic substitution reaction on the indole nitrogen as a general reaction by the treatment with acid, providing a novel synthetic method for 1-aryltryptamines. Depending on the structures of nucleophiles, 5- and 7-substituted tryptamines can also be produced in addition to the 1-aryltryptamines.
IT 180910-62-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(nucleophilic substitution reaction on the nitrogen of indole nucleus)
RN 180910-62-7 HCAPLUS
CN Acetamide, N-[2-(1-hydroxy-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

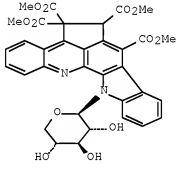


REFERENCE COUNT: 16 THERE ARE 16 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 10 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:178752 HCAPLUS Full-text
DOCUMENT NUMBER: 137:15825
TITLE: Melatonin and sleep
AUTHOR(S): Hattori, Atsuhiko
CORPORATE SOURCE: Tokyo Medical and Dental University, Japan
SOURCE: Annual Review Shinkei (2002) 7-17
CODEN: ARSNCE
PUBLISHER: Chugai Igakusha
DOCUMENT TYPE: Journal; General Review
LANGUAGE: Japanese
ED Entered STN: 13 Mar 2002
AB A review, on distribution of melatonin; melatonin synthetic pathway in pineal body; receptor-mediated function of melatonin in regulation of biorhythms and human sleep; and receptor-independent functions, such as antioxidant activity of melatonin.
IT 73-31-4, Melatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin regulation of biorhythms and sleep)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 11 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2002:70668 HCAPLUS Full-text
DOCUMENT NUMBER: 136:369626
TITLE: Chemistry of indoles. 108. Short step syntheses of indolo[2,3-a]carbazoles carrying an alkyl, allyl, or a glycosyl group at the 11-position and a novel 6,7-dihydro-13H-cyclopentano[mn]indolo[3,2-c]acridine derivative
AUTHOR(S): Somei, Masanori; Yamada, Fumio; Kato, Jun; Suzuki, Yoshiaki; Ueda, Yoshinori
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920-0934, Japan
SOURCE: Heterocycles (2002), 56(1-2), 81-84
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 136:369626
ED Entered STN: 25 Jan 2002
GI



I

AB Novel 1-alkyl-, 1-allyl-, and 1-β-glycosyl-2,2'-biindolyls are prepared Their Diels-Alder reactions produced 11-alkyl-, 11-allyl-, and 11-β-glycosylindolo[2,3-a]carbazoles. Formation of a novel 6,7-dihydro-13H-cyclopentano[mn]indolo[3,2-c]acridine derivative (I) is also reported.

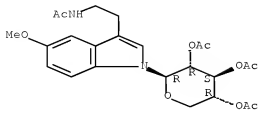
IT 425376-24-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(short step syntheses of indolo[2,3-a]carbazoles carrying an alkyl, allyl, or a glycosyl group at the 11-position and a novel 6,7-dihydro-13H-cyclopentano[mn]indolo[3,2-c]acridine derivative)

RN 425376-24-5 HCAPLUS

CN Acetamide, N-[2-[5-methoxy-1-(2,3,4-tri-O-acetyl-β-D-xylopyranosyl)-

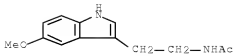
1H-indol-3-yl]ethyl]- (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



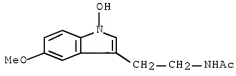
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 12 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:274811 HCAPLUS Full-text
DOCUMENT NUMBER: 134:364305
TITLE: Quantitative analysis of serotonin metabolites in fish organs
AUTHOR(S): Nagai, Takeshi; Kanamori, Norio; Suzuki, Nobutaka; Katagiri-Tsunehiro, Yukako; Tada, Takashi; Nagayama, Fumio
CORPORATE SOURCE: Division of Bioresource and Bioenvironmental Sciences, Graduate School, Kyushu University, Fukuoka, 812-8581, Japan
SOURCE: ITE Letters on Batteries, New Technologies & Medicine (2001), 2(1), 120-123
CODEN: ILBMF9
PUBLISHER: ITE-IBA Publication Office
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 18 Apr 2001
AB To quantify the serotonin metabolites in fish organs, HPLC anal. using fluorometric detection were performed. In rainbow trout, tryptophan was detected at high concns. in all organs tested. Serotonin was detected in the brain, liver, and blood, but not in plasma; the brain showed the highest concentration (113 ng/g tissue). 5-Hydroxyindole-3-acetic acid was detected in the liver, blood, and plasma, but not in the brain; the liver showed the highest concentration (349 ng/g tissue). Melatonin was not detected in all samples tested. In flatfish, tryptophan was detected in the brain, liver, epidermis, and dermis at high concns. Serotonin was detected only in the brain (835 ng/g tissue) and 5-hydroxyindole-3-acetic acid was detected only in liver (985 ng/g tissue). Melatonin was detected in the epidermis (9 ng/g tissue) and dermis (7 ng/g tissue). It is suggested that melatonin in the epidermis and dermis serves as a precursor of melanin which is synthesized in the skin of the flatfish.
IT 73-31-4, Melatonin
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(quant. anal. of serotonin metabolites in flatfish and rainbow trout organs)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 23 THERE ARE 23 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

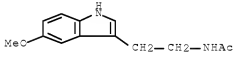
L39 ANSWER 13 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:211946 HCAPLUS Full-text
DOCUMENT NUMBER: 135:33418
TITLE: Nucleophilic substitution reaction on the nitrogen of indole nucleus: formation of 1-(indol-3-yl)indoles upon reaction of 1-hydroxyindoles with indole in formic acid
AUTHOR(S): Somei, Masanori; Yamada, Fumio; Hayashi, Toshikatsu; Goto, Aya; Saga, Yoshitomo
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920-0934, Japan
SOURCE: Heterocycles (2001), 55(3), 457-460
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 135:33418
ED Entered STN: 25 Mar 2001
AB 1-(Indol-3-yl)indoles are obtained in excellent to good yields by the reaction of 1-hydroxyindoles with indole in 85% HCO2H. An unprecedented SN2 mechanism on the indole N is proposed.
IT 180910-62-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of biindoles by nucleophilic substitution of hydroxyindoles with indole in formic acid)
RN 180910-62-7 HCAPLUS
CN Acetamide, N-[2-(1-hydroxy-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 14 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2001:184752 HCAPLUS Full-text
DOCUMENT NUMBER: 134:337516
TITLE: (Preliminary communication) enzymatic production of melatonin in rainbow trout (Salmo gairdneri) and

skipjack tuna (Katsuwonus pelamis) brain
AUTHOR(S): Nagai, Takeshi; Suzuki, Nobutaka; Katagiri-Tsunehiro, Yukako; Tada, Takashi; Nagayama, Fumio
CORPORATE SOURCE: Division of Bioresource and Bioenvironmental Sciences, Kyushu University, Fukuoka, 812-8581, Japan
SOURCE: ITE Letters on Batteries, New Technologies & Medicine (2000), 1(6), 952-955
CODEN: ILBMF9
PUBLISHER: ITE-IBA Publication Office
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 16 Mar 2001
AB An in vitro investigation of the enzymic production of N-acetylserotonin and melatonin by two enzymes, serotonin N-acetyltransferase and hydroxyindole-o-methyltransferase in brains of rainbow trout and skipjack tuna was done. As a result, without regard to the conditions, the peak corresponding to N-acetylserotonin was detected by the addition of acetyl-CoA. Moreover, with the addition of S-adenosyl-L-methionine, the peak of melatonin in rainbow trout was detected only under dark condition. On the other hand, the melatonin peak was detected in skipjack tuna under both conditions. It is suggested that the enzyme itself recognizes light and darkness.
IT 73-31-4, Melatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative); PROC (Process)
(enzymic production of melatonin in rainbow trout (Salmo gairdneri) and skipjack tuna (Katsuwonus pelamis) brain)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

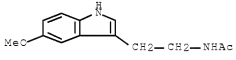
L39 ANSWER 15 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2000:789093 HCAPLUS Full-text
DOCUMENT NUMBER: 134:66265
TITLE: A simple and rapid determination of serotonin metabolites using fluorometric detection
AUTHOR(S): Nagai, Takeshi; Suzuki, Nobutaka; Katagiri-Tsunehiro, Yukako; Tada, Takashi; Nagayama, Fumio
CORPORATE SOURCE: Department of Food Science and Technology, National Fisheries University, Yamaguchi, 759-6595, Japan
SOURCE: ITE Letters on Batteries, New Technologies & Medicine (2000), 1(4), 118-120
CODEN: ILBMF9
PUBLISHER: ITE-IBA Publication Office
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 10 Nov 2000

AB A simple and rapid determination method of serotonin metabolites was developed. The detection wavelengths were 285 nm for excitation and 345 nm for emission. The anal. time was only 9 min for 5-hydroxytryptophan, 5-hydroxytryptamine, tryptophan, and 5-hydroxyindole-3-acetic acid for the simultaneous quant. method. On the other hand, the anal. time was only 6 min for melatonin. This method is proposed for biol., biochem., and clin. chemical exploration because there is no need for specific technique.

IT 73-31-4, Melatonin
RL: ANT (Analyte); BPR (Biological process); BSU (Biological study, unclassified); ANST (Analytical study); BIOL (Biological study); PROC (Process)
(serotonin metabolite simple and rapid determination using fluorometric detection)

RN 73-31-4 HCAPLUS

CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 16 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:648078 HCAPLUS Full-text

DOCUMENT NUMBER: 133:350411

TITLE: Simple syntheses of indol-1-yl glucosides

AUTHOR(S): Yamada, Fumio; Hayashi, Toshikatsu; Yamada, Koji; Somei, Masanori

CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920-0934, Japan

SOURCE: Heterocycles (2000), 53(9), 1881-1884
CODEN: HTCYAM; ISSN: 0385-5414

PUBLISHER: Japan Institute of Heterocyclic Chemistry

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:350411

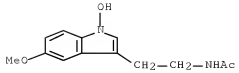
ED Entered STN: 17 Sep 2000

AB A LiOH-promoted glucosidation of 1-hydroxyindoles with 2,3,4,6-tetra-O-acetyl-α-D-glucopyranosyl bromide is newly developed. Applying this method, the 1st and simple syntheses of novel indol-1-yl glucosides were achieved.

IT 180910-62-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of indol-1-yl glucosides by glycosidation of hydroxyindoles with glucopyranosyl bromide in presence of lithium hydroxide)

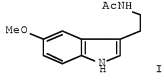
RN 180910-62-7 HCAPLUS

CN Acetamide, N-[2-(1-hydroxy-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 19 THERE ARE 19 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 17 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2000:557901 HCAPLUS Full-text
DOCUMENT NUMBER: 133:296316
TITLE: Syntheses of melatonin and its derivatives
AUTHOR(S): Somei, Masanori; Fukui, Yoshikazu; Hasegawa, Masakazu; Oshikiri, Naoki; Hayashi, Toshikatsu
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920-0934, Japan
SOURCE: Heterocycles (2000), 53(8), 1725-1736
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 133:296316
ED Entered STN: 14 Aug 2000
GI

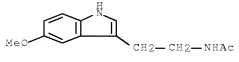


AB Two simple synthetic methods for melatonin (I) are newly developed from tryptamine through intermediates, which are promising lead compds. for drug developing research. Novel chemical reactivities of melatonin in its bromination, lithiation, and acylation are also reported.

IT 73-31-4P, Melatonin
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis of melatonin and derivs.)

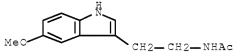
RN 73-31-4 HCAPLUS

CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 35 THERE ARE 35 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 18 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2000:13657 HCAPLUS Full-text
DOCUMENT NUMBER: 132:48868
TITLE: Changes in melatonin concentrations during IFN therapy
AUTHOR(S): Uchimura, Y.; Uchimura, N.; Kumashiro, R.; Hattori, A.; Sata, M.
CORPORATE SOURCE: Second Department of Medicine, Kurume University School of Medicine, Fukuoka, Japan
SOURCE: Journal of Hepatology (1999), 31(6), 1131
CODEN: JOHEEC; ISSN: 0168-8278
PUBLISHER: Munksgaard International Publishers Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 07 Jan 2000
AB To test whether altered melatonin secretion is related to psychiatric symptoms or sleep disorders during interferon therapy, seven patients who received interferon for chronic hepatitis C were investigated. Two patients complained of insomnia and one presented with depression and sleep disruption within two weeks of starting interferon, and melatonin levels were higher in patients two weeks after starting interferon than prior to therapy. Results suggest that interferon increases melatonin secretion and the psychiatric side effects during interferon therapy may be related to the increase in melatonin concentration or the change in its circadian rhythm.
IT 73-31-4, Melatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(role of melatonin in sleep and mood disorders due to interferon therapy in humans)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 19 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1999:382789 HCAPLUS Full-text
DOCUMENT NUMBER: 131:199869
TITLE: The chemistry of indoles. 91. Preparations of melatonin and 1-hydroxymelatonin, and its novel nucleophilic dimerization to (±)-3a,3a'-bispyrrolo[2,3-b]indoles
AUTHOR(S): Somei, Masanori; Oshikiri, Naoki; Hasegawa, Masakazu; Yamada, Fumio
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920-0934, Japan
SOURCE: Heterocycles (1999), 51(6), 1237-1242
CODEN: HTCYAM; ISSN: 0385-5414

PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 131:199869
ED Entered STN: 22 Jun 1999
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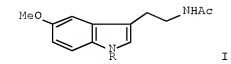
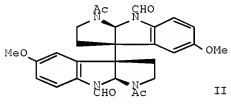


I

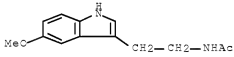


II

AB A unique synthetic method for melatonin (I; R = H) was established through biol. promising synthetic intermediates. 1-Hydroxymelatonin (I; R = OH) was prepared as crystals for the first time. It reacted with 85% formic acid to give (±)-3a,3a'-bispyrrolo[2,3-b]indole II, whose structure was unequivocally determined by X-Ray crystallog. anal.

IT 73-31-4P, Melatonin
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of melatonin and 1-hydroxymelatonin, and its nucleophilic dimerization to a bispyrrolo[2,3-b]indole)

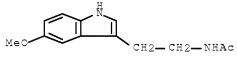
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

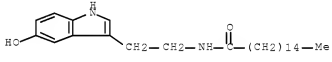
L39 ANSWER 20 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1998:814635 HCAPLUS Full-text
DOCUMENT NUMBER: 130:192267
TITLE: Immunohistochemical study of IGF-1 in experimental scoliosis
AUTHOR(S): Mori, Hideaki; Kato, Haruyasu; Hattori, Atsuhiko
CORPORATE SOURCE: School of Medicine, St. Marianna University, Sugao, Miyamae-ku, Kawasaki, 216-8511, Japan
SOURCE: Sei Marianna Ika Daigaku Zasshi (1998),

26(4), 417-423
CODEN: SMIZDS; ISSN: 0387-2289
PUBLISHER: Sei-Marianna Ika Daigaku Igakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 01 Jan 1999
AB The etiol. of idiopathic scoliosis is not still clear. The authors examined the effect of IGF-1 in the bone and cartilage of rachioscoliosis model. Forty chicks of one day after hatching were used. Twenty chicks were prepared as a pinealectomized group. The remaining 20 chicks served as controls. The vertebrae from the lower thoracic to the upper lumbar vertebrae were excised en block at 4, 6, 10 and 14 days after pinealectomy. Paraffin-embedded section of the sagittal surface of the spinal column were prepared Immunostaining of these sections were performed using monoclonal antihuman IGF-1 antibody and the LSAB kit. Statistical anal. was performed using two-way ANOVA. In immunostaining, stainability of the proliferating chondrocyte zone was observed in all specimens. In the anal. using two-way ANOVA, the number of pos. cells was significantly increased in the pinealectomized group. It was assumed that scoliosis occurred because melatonin secretion was reduced by pinealectomy. The production of IGF-1 in the bones was exacerbated and this had some effect on ossification in the proliferating chondrocyte zone or metaphysis.
IT 73-31-4, Melatonin
RL: ADV (Adverse effect, including toxicity); BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(IGF-1 involvement in exptl. scoliosis)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



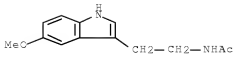
L39 ANSWER 21 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1998:454201 HCAPLUS Full-text
DOCUMENT NUMBER: 129:230562
ORIGINAL REFERENCE NO.: 129:46915a,46918a
TITLE: The chemistry of indoles. 87. Syntheses of 1-hydroxytryptamines and serotonins having fatty acyl or (E)-3-phenylpropenoyl derivatives as a Nb-substituent, and a novel homologation on the 3-substituent of the 1-hydroxytryptamines upon treatment with diazomethane
AUTHOR(S): Somei, Masanori; Morikawa, Harunobu; Yamada, Koji; Yamada, Fumio
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920-0934, Japan
SOURCE: Heterocycles (1998), 48(6), 1117-1120
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 129:230562

ED Entered STN: 22 Jul 1998
AB 1-Hydroxytryptamines with (E)-3-phenyl-, (E)-3-(4-hydroxyphenyl)-, (E)-3-(4-hydroxy-3-methoxyphenyl)propenoyl, octanoyl, hexadecanoyl, and docosanoyl groups as the Nb-substituent were prepared for the first time. Prepns. of serotonins from the corresponding 1-hydroxytryptamines are also reported. A new homologation on the 3-substituent of 1-hydroxytryptamines was discovered upon treatment with diazomethane in chloroform or dichloromethane.
IT 212707-51-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of fatty acyl or (E)-3-phenylpropenoyl derivs. of 1-hydroxytryptamines and serotonins and a novel diazomethane homologation on the 3-substituent of the 1-hydroxytryptamines)
RN 212707-51-2 HCAPLUS
CN Hexadecanamide, N-[2-(5-hydroxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



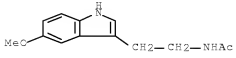
REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 22 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1998:190754 HCAPLUS Full-text
DOCUMENT NUMBER: 128:257295
ORIGINAL REFERENCE NO.: 128:50935a,50938a
TITLE: Chemistry of indoles. 81. Syntheses of serotonin, N-methylserotonin, bufotenine, and melatonin, and the first total synthesis of N-(indole-3-yl)methyl-N-methyl-5-methoxytryptamine from tryptamine through a common intermediate, 1-hydroxytryptamine
AUTHOR(S): Somei, Masanori; Yamada, Fumio; Morikawa, Harunobu
CORPORATE SOURCE: Fac. Pharmaceutical Sci., Kanazawa Univ., Kanazawa, 920, Japan
SOURCE: Heterocycles (1997), 46, 91-94
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 128:257295
ED Entered STN: 02 Apr 1998
AB Simple synthesis of serotonin, N-methylserotonin, bufotenine, and melatonin, and the first total synthesis of N-(indol-3-yl)methyl-N-methyl- 5-methoxytryptamine from tryptamine was reported through acid catalyzed nucleophilic substitution reaction of 1-hydroxytryptamines.
IT 73-31-4P, Melatonin
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of serotonin, bufotenine, and melatonin via nucleophilic substitution of hydroxytryptamine)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



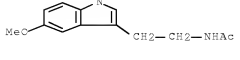
REFERENCE COUNT: 26 THERE ARE 26 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 23 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1998:148292 HCAPLUS Full-text
DOCUMENT NUMBER: 128:255338
ORIGINAL REFERENCE NO.: 128:50507a,50510a
TITLE: Ocular melatonin rhythms in the goldfish, Carassius auratus
AUTHOR(S): Iigo, Masayuki; Furukawa, Kiyoshi; Hattori, Atsuhiko; Ohtani-Kaneko, Ritsuko; Hara, Masayuki; Suzuki, Takuro; Tabata, Mitsuo; Aida, Katsumi
CORPORATE SOURCE: Department of Anatomy, St. Marianna University School of Medicine, Kawasaki, 216, Japan
SOURCE: Journal of Biological Rhythms (1997), 12(2), 182-192
CODEN: JBRHEE; ISSN: 0748-7304
PUBLISHER: Sage Science Press
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 Mar 1998
AB Ocular melatonin rhythms in the goldfish were studied and compared to those in the pineal organ and plasma. Under light:dark (LD) of 12 h light:12 h dark, melatonin contents in the eye as well as the pineal organ and plasma exhibited clear day-night changes with higher levels at mid-dark than at mid-light. However, melatonin contents in the eye at mid-light and mid-dark were approx. 100 and 9 times greater than those in the pineal organ, resp. Day-night changes of ocular melatonin persisted after pinealectomy, which abolished those in plasma melatonin under LD 12:12. Ocular melatonin contents in the pinealectomized fish at mid-light were significantly higher than those in the sham-operated control. Under constant darkness (DD), circadian melatonin rhythms were observed in the eye but damped on the 3rd day, whereas plasma melatonin rhythms generated by the pineal organ persisted for at least 3 days. Under constant light, ocular melatonin contents exhibited a significant fluctuation with a smaller amplitude than that under DD, whereas plasma melatonin remained at low levels. These results indicate the involvement of LD cycles, a circadian clock, and the pineal organ in the regulation of ocular melatonin rhythms in the goldfish.
IT 73-31-4, Melatonin
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(ocular melatonin rhythms in the goldfish)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



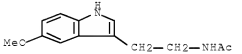
REFERENCE COUNT: 61 THERE ARE 61 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 24 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:256590 HCAPLUS Full-text
DOCUMENT NUMBER: 126:327205
ORIGINAL REFERENCE NO.: 126:63491a,63494a
TITLE: Hydroxyindole-O-methyltransferase activity assay using high-performance liquid chromatography with fluorometric detection: determination of melatonin enzymically formed from N-acetylserotonin and S-adenosyl-L-methionine
AUTHOR(S): Itoh, Masanori T.; Hattori, Atsuhiko; Sumi, Yawara
CORPORATE SOURCE: Department of Chemistry, St. Marianna University School of Medicine, Sugao, Miyamae-ku, Kawasaki, 216, Japan
SOURCE: Journal of Chromatography, B: Biomedical Sciences and Applications (1997), 692(1), 217-221
CODEN: JCBBEP; ISSN: 0378-4347
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 19 Apr 1997
AB A reliable, sensitive and rapid assay has been developed for determining the activity of hydroxyindole-O-methyltransferase (HIOMT; S-adenosyl-L-methionine:N-acetylserotonin-O-methyltransferase; EC 2.1.1.4), which catalyzes the final step in the melatonin (N-acetyl-5-methoxytryptamine) biosynthetic pathway. This method is based on the separation and detection of melatonin formed enzymically from N-acetylserotonin and S-adenosyl-L-methionine, by high-performance liquid chromatog. with fluorometric detection. The detection limit for melatonin formed per sample was as low as 150 fmol, indicating that the sensitivity of this assay was comparable to that of a radioisotopic assay. The assay was applied to the determination of HIOMT activity in rat pineal gland. The HIOMT activity obtained in this study was comparable with, or slightly lower than those reported previously using radioisotopic assays.
IT 73-31-4, Melatonin
RL: ANT (Analyte); ANST (Analytical study)
(hydroxyindole-O-methyltransferase activity assay using high-performance liquid chromatog. with fluorometric detection by determination of melatonin enzymically formed from N-acetylserotonin and S-adenosyl-L-methionine)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



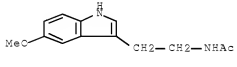
L39 ANSWER 25 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:242762 HCAPLUS Full-text
DOCUMENT NUMBER: 126:315122
ORIGINAL REFERENCE NO.: 126:61077a
TITLE: Regulation by guanine nucleotides and cations of melatonin binding sites in the goldfish brain
AUTHOR(S): Iigo, Masayuki; Ohtani-Kaneko, Ritsuko; Hara, Masayuki; Hattori, Atsuhiko; Takahashi, Hidehito; Tabata, Mitsuo; Suzuki, Takuro; Aida, Katsumi
CORPORATE SOURCE: Department of Anatomy, St. Marianna University School of Medicine, Kawasaki, 216, Japan
SOURCE: Biological Signals (1997), 6(1), 29-39
CODEN: BISIEH; ISSN: 1016-0922
PUBLISHER: Karger
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 14 Apr 1997
AB Effects of nucleotides and cations on 2-[125I]iodomelatonin binding sites in the goldfish brain were examined Nucleotides (10-6-10-3 M) dose-dependently inhibited the specific binding with the following order of potency: guanosine 5'-O-(3-thiotriphosphate) (GTPγS) >GTP = GDP >GMP = ATP >cGMP. CAMP was ineffective. The treatment of membranes with GTPγS induced rapid dissociation of 2-[125I]iodomelatonin from membranes when added at the steady state, increased the Kd and decreased the Bmax values as revealed by saturation anal., and increased the IC50 value of melatonin to inhibit the specific binding. The treatment decreased the specific binding to membrane prepns. obtained from six brain regions as well. Inorg. salts (5-200 mM) dose-dependently inhibited the specific binding with the following order of potency: CaCl2 > MgCl2 > LiCl > NaCl > choline chloride > KCl, except for 5 mM MgCl2, which enhanced the specific binding. Saturation expts. demonstrated that 75 mM CaCl2, 100 mM MgCl2 and 200 mM NaCl increased the Kd and decreased the Bmax while 5 mM MgCl2 increased the Bmax value. These results imply that G protein and physiol. concns. of cations are involved in the regulation of melatonin binding sites in the goldfish brain.
IT 73-31-4, Melatonin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(regulation by guanine nucleotides and cations of melatonin binding sites in goldfish brain)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



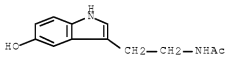
L39 ANSWER 26 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:5575 HCAPLUS Full-text
DOCUMENT NUMBER: 126:57674
ORIGINAL REFERENCE NO.: 126:11295a,11298a
TITLE: Retinal melatonin is not involved in corneal mitotic rhythms in the Japanese quail: effects of formoguanamine hydrochloride and eye-lid suture

AUTHOR(S): Oishi, Tadashi; Mohri, Yayoi; Kaneko, Tomoko; Sasaki, Motoko; Hattori, Atsshiko; Obara, Yoshihiko; Masuda, Atsuko
CORPORATE SOURCE: Dep. Biological Sci., Nara Women's Univ., Nara, 630, Japan
SOURCE: Journal of Pineal Research (1996), 21(3), 149-154
CODEN: JPRSE9; ISSN: 0742-3098
PUBLISHER: Munksgaard
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 06 Jan 1997
AB Relation between retinal melatonin and corneal mitotic rhythms in the Japanese quail was investigated in expts. manipulating the ocular physiol. by treatments with formoguanamine hydrochloride (FG) and eye-lid suture. In experiment 1, the authors investigated the effects of FG, which is known to induce photoreceptor degeneration, on retinal melatonin and corneal mitotic rhythms. FG-treatment completely abolished the retinal melatonin rhythms in both LD 12:12 and constant darkness (DD), but the corneal mitotic rhythm was maintained with high mitotic rate in darkness under a LD cycle and subjective night under DD. The result suggests that (1) the photoreceptor cells in the retina are the site for melatonin production and/or for the oscillator which drives the circadian rhythm in retinal melatonin, and (2) melatonin is not involved in generation of the corneal mitotic rhythm. In experiment 2, the authors investigated the effects of eye-lid suture, which is known to induce eye enlargement and bulgy cornea, on the retinal melatonin and corneal mitotic rhythms. Eye-lid suture abolished the corneal mitotic rhythm in both LD and DD, with a high mitotic rate being maintained throughout 24 h. But retinal melatonin maintained its rhythm with high levels in darkness under a LD cycle and in subjective night under DD. The result suggests that(1) bulgy cornea in the sutured eye was induced by the increase in mitotic rate in the light period, and (2) disappearance of the corneal mitotic rhythm does not have a relation to retinal melatonin. These results suggest that retinal melatonin is not involved in generation of the corneal mitotic rhythm and that there are two circadian clock systems in the eye.
IT 73-31-4, Melatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(retinal melatonin is not involved in corneal mitotic rhythms in the Japanese quail)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



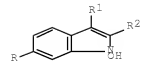
L39 ANSWER 27 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:1477 HCAPLUS Full-text
DOCUMENT NUMBER: 126:104034
ORIGINAL REFERENCE NO.: 126:20073a,20076a
TITLE: The chemistry of indoles. 79. A novel dimerization of 1-hydroxyindoles
AUTHOR(S): Hasegawa, Masakazu; Tabata, Mutsuko; Satoh, Keiichi;

Yamada, Fumio; Somei, Masanori
CORPORATE SOURCE: Fac. Pharm. Sci., Kanazawa Univ., Kanazawa, 920, Japan
SOURCE: Heterocycles (1996), 43(11), 2333-2336
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 126:104034
ED Entered STN: 02 Jan 1997
AB 1-Hydroxyindoles are sensitive to acids and undergo four types of competing reactions; dehydroxylation, nucleophilic substitution, dimerization, and formation of hexacyclic dimer. The direction of the reaction depends on the subtle balance of substrate structures, acids, and reaction conditions. Structures of the products are unequivocally determined by X-ray single crystallog. analyses and chemical correlations.
IT 1210-83-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(dehydroxylation, nucleophilic substitution, dimerization, and hexacyclic dimerization of 1-hydroxyindoles)
RN 1210-83-9 HCAPLUS
CN Acetamide, N-[2-(5-hydroxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 10 THERE ARE 10 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L39 ANSWER 28 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:612246 HCAPLUS Full-text
DOCUMENT NUMBER: 126:7941
ORIGINAL REFERENCE NO.: 126:1767a,1770a
TITLE: The chemistry of indoles. 78. Preparations of 1-hydroxyindole derivatives and their potent inhibitory activities on platelet aggregation
AUTHOR(S): Somei, Masanori; Yamada, Koji; Hasegawa, Masakazu; Tabata, Mutsuko; Nagahama, Yoshiyuki; Morikawa, Harunobu; Yamada, Fumio
CORPORATE SOURCE: Fac. Pharmaceutical Sci., Kanazawa Univ., Kanazawa, 920, Japan
SOURCE: Heterocycles (1996), 43(9), 1855-1858
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 14 Oct 1996
GI



I

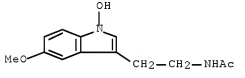
AB 1-Hydroxymelatonin, 5-bromo- and 5,7-dibromo-1-hydroxytryptamine derivs., 1,4-dihydroxy-5-nitroindole, 1-hydroxy-3-methylsulfinylmethylindole, and 5-acetyl-1,3,4,5-tetrahydro-1-hydroxypyrrolo[4,3,2-de]quinoline were synthesized for the first time. 1-Hydroxyindoles I [R = H, R1 = CH2CH2NHAc, CH2CH2NMe2, CH2CH2NHCO2Me, (CH2)3CO2Me, R2 = H; R = NO2, R1 = CH2CH2NHCOCF3, R2 = H; R = H, R1R2 = CH2CH2N(CO2Me)CH2] revealed potent inhibitory activities on platelet aggregation.

IT 180910-62-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and platelet aggregation inhibitory activity of hydroxyindole derivs.)

RN 180910-62-7 HCAPLUS

CN Acetamide, N-[2-(1-hydroxy-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 29 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1996:551109 HCAPLUS Full-text

DOCUMENT NUMBER: 125:195428

ORIGINAL REFERENCE NO.: 125:36599a,36602a

TITLE: Preparation of hydroxyindole derivatives as pharmaceuticals

INVENTOR(S): Somei, Masanori

PATENT ASSIGNEE(S): Kissei Pharmaceutical, Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 19 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 08151366	A	19960611	JP 1994-330796	19941125 <--
JP 3795093	B2	20060712		
PRIORITY APPLN. INFO.:			JP 1994-330796	19941125 <--

OTHER SOURCE(S): MARPAT 125:195428

ED Entered STN: 17 Sep 1996

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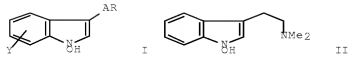
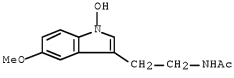


AB The title compds. I [A = alkylene; R = alkoxycarbonylamino, etc.; Y = H, nitro, etc.], useful as platelet aggregation inhibitors, bronchodilators, and antihypertensives, are prepared The title compound II (preparation given) in vitro at 2.9 μM gave 50% inhibition of arachidonic acid-induced platelet aggregation.

IT 180910-62-7P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(preparation of hydroxyindole derivs. as pharmaceuticals)

RN 180910-62-7 HCAPLUS

CN Acetamide, N-[2-(1-hydroxy-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 30 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1996:135159 HCAPLUS Full-text

DOCUMENT NUMBER: 124:220352

ORIGINAL REFERENCE NO.: 124:40481a,40484a

TITLE: Effects of local anesthetics, carbachol, 4-aminopyridine and neostigmine administered at nighttime on plasma concentrations of melatonin in rats

AUTHOR(S): Uchida, Kazuhide; Aoki, Tadashi; Sato, Hisashi; Takahashi, Keizo; Hattori, Atsuniko; Migitaka, Hiro; Suzuki, Takuro; Fusama, Shigeyoshi; Ishizuka, Bunpei

CORPORATE SOURCE: School Medicine, Marianna Univ., Kawasaki, 216, Japan

SOURCE: Sei Marianna Ika Daigaku Zasshi (1995), 23(5), 1030-4
CODEN: SMIZDS; ISSN: 0387-2289

PUBLISHER: Sei-Marianna Ika Daigaku Igakkai

DOCUMENT TYPE: Journal

LANGUAGE: Japanese

ED Entered STN: 07 Mar 1996

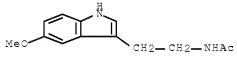
AB Levels of plasma melatonin concentration were observed continuously in patients undergoing esophageal surgery. Plasma melatonin concentration in normal stage is low (<40 pg/mL) in daytime and high (40-150 pg/mL) in nighttime. The purpose of this study is to examine the causes of abnormal

values in the patients during nighttime. Local anesthetics of perioperative use and cholinergic receptor agonists were administered s.c. to rats at 0:00 (midnight). Plasma melatonin levels were determined by RIA in blood samples collected from the heart at 1:30. The values (80 ± 36 pg/mL, 72 ± 25 pg/mL) in the groups administered mepivacaine or bupivacaine ($p < 0.05$ and $p < 0.001$) were significantly lower than the control value. There were no differences of melatonin concns. among 4-aminopyridine of low dose (75 μg), neostigmine, and placebo groups. However, the melatonin concns. in carbachol, 4-aminopyridine in high dose (150 μg) groups were significantly lower than the control value. These results suggest that local anesthetics and cholinergic receptor agonists inhibit the biosynthesis of melatonin in nighttime.

IT 73-31-4, Melatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(effects of local anesthetics, carbachol, 4-aminopyridine and neostigmine on plasma melatonin)

RN 73-31-4 HCAPLUS

CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 31 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:	1996:135154 HCAPLUS Full-text
DOCUMENT NUMBER:	124:227317
ORIGINAL REFERENCE NO.:	124:42008h,42009a
TITLE:	Day-night changes in melatonin contents in the vitreous body and in vitro melatonin release from the retina of Japanese quail (Coturnix coturnix japonica)
AUTHOR(S):	Fujisawa, Yasuhiko; Ohtera, Kizuku; Iigo, Masayuki; Hattori, Atsuhiko
CORPORATE SOURCE:	School Medicine, St. Marianna Univ., Kawasaki, 216, Japan
SOURCE:	Sei Marianna Ika Daigaku Zasshi (1995), 23(5), 833-42 CODEN: SMIZDS; ISSN: 0387-2289
PUBLISHER:	Sei-Marianna Ika Daigaku Igakkai
DOCUMENT TYPE:	Journal
LANGUAGE:	English

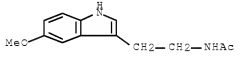
ED Entered STN: 07 Mar 1996

AB Ocular melatonin rhythms in Japanese quail were examined Under light-dark (LD) 12:12 photoperiod, melatonin contents in the vitreous body as well as the retina exhibited significant day-night changes with higher values observed at midnight than those at midday in vivo, suggesting melatonin secretion from the retina into the vitreous body. Then in vitro melatonin release from quail retina was examined Under LD 16:8 culture conditions, the retina released melatonin in a rhythmic fashion with highest titers observed around the dark-light transition. Removal of the pigment epithelium reduced the amplitude of the rhythm. Large amount of melatonin was released from the retina obtained from the quail sacrificed in the scotophase and values of melatonin released under the dark conditions were significantly higher than those under the light conditions. The retina obtained in the photophase released small amount of

melatonin and there was no difference of melatonin contents in the media cultured under between light and dark conditions. Likewise, under the in vitro constant dark conditions, rhythmic melatonin release roughly persisted regardless of the time of sacrifice but not in constant light conditions. These results indicate that melatonin synthesized in the retina is released to both the vitreous body and general circulation in a rhythmic fashion under LD cycles, that the pigment epithelium plays important roles to maintain rhythmic melatonin release, and that quail retina contains circadian oscillators.

IT 73-31-4, Melatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(day-night changes in melatonin contents in the vitreous body and melatonin release from retina of Japanese quail)

RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



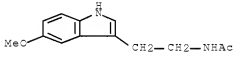
L39 ANSWER 32 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:985705 HCAPLUS Full-text
DOCUMENT NUMBER: 124:25933
ORIGINAL REFERENCE NO.: 124:4915a,4918a
TITLE: Characterization of morphogenetic changes and melatonin contents of developing quail retina
AUTHOR(S): Matsuda, Hitoshi; Ohtera, Kizuku; Hattori, Atsuhiko
CORPORATE SOURCE: School of Medicine, St. Marianna University, Kawasaki, 216, Japan
SOURCE: Sei Marianna Ika Daigaku Zasshi (1995), 23(3), 239-48
CODEN: SMIZDS; ISSN: 0387-2289
PUBLISHER: Sei-Marianna Ika Daigaku Igakkai
DOCUMENT TYPE: Journal
LANGUAGE: Japanese
ED Entered STN: 14 Dec 1995
AB The authors reported that melatonin was produced from quail retina and its secretion was regulated by a circadian oscillator in the retina. To define the mechanism of melatonin secreting rhythm the authors investigated melatonin content in the eye following the incubation stage in which different arrangements of nerve cells appear in the retina. The embryos of Japanese quail (Coturnix coturnix japonica) were incubated under a photoperiod of 12L:12D. They were killed at 5-15 days of incubation and their eyes were enucleated immediately. In 1 group, the eyes were fixed in Bouin's solution and embedded in paraffin. Sections of the retina were stained with hematoxylin and eosin. In the other group, the eyes were homogenized in Teflon-glass homogenizers, centrifuged, and the supernatant was measured by melatonin RIA. In addition, an immunohistochem. study on photoreceptor cells was performed using antiserum against bovine rhodopsin. Melatonin in the eye appeared first on the 9th day of incubation when there is a clear differentiation of outer granular layer and inner granular layer in the retina. A significant day-night variation in the ocular melatonin content, with high levels at night-time, was detected in 13-day embryos in which the

outer segments of photoreceptor cells appeared and immunoreactivity of rhodopsin was clearly recognized. It appears that the fundamental data obtained in this experiment should be useful to clarify the mechanism of the circadian oscillating system in the retina.

IT 73-31-4, Melatonin
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(melatonin content and morphogenetic changes in retina of quail embryo)

RN 73-31-4 HCAPLUS

CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 33 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1995:934873 HCAPLUS Full-text

DOCUMENT NUMBER: 124:25965

ORIGINAL REFERENCE NO.: 124:4919a,4922a

TITLE: Melatonin and arylalkylamine N-acetyltransferase activity in the silkworm, Bombyx mori

AUTHOR(S): Itoh, Masanori T.; Hattori, Atsuhiko; Nomura, Tsuyoshi; Sumi, Yawara; Suzuki, Takuro

CORPORATE SOURCE: Department of Chemistry, St. Marianna University School of Medicine, Sugao, Miyamae-ku, Kawasaki, 216, Japan

SOURCE: Molecular and Cellular Endocrinology (1995), 115(1), 59-64
CODEN: MCEND6; ISSN: 0303-7207

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

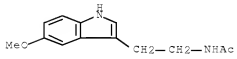
ED Entered STN: 22 Nov 1995

AB Melatonin (N-acetyl-5-methoxytryptamine) was identified in the head and hemolymph of the silkworm, Bombyx mori, using reversed-phase high-performance liquid chromatog. coupled with fluorometric detection and RIA. In addition, evidence of arylalkylamine (serotonin) N-acetyltransferase (NAT) a key enzyme controlling the synthesis of melatonin in vertebrates, was found in the head of the silkworm. Melatonin levels in the head and hemolymph and the NAT activity in the head were significantly higher during the dark period than during the light period of a 12-h light/12-h dark cycle. The day-night changes persisted in constant darkness but were suppressed by constant light. The results suggest that the synthesis and release of melatonin in the silkworm head occur as a circadian rhythm that is entrained by environmental light/dark cycles, as it is in the pineal gland of vertebrates. Melatonin in the silkworm head may function as a neurochem. mediator of photoperiodic control of developmental events such as molting, eclosion and diapause.

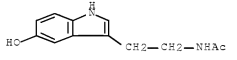
IT 73-31-4, Melatonin
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(melatonin and arylalkylamine N-acetyltransferase activity in silkworm)

RN 73-31-4 HCAPLUS

CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

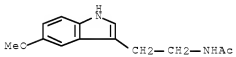


L39 ANSWER 34 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:904610 HCAPLUS Full-text
DOCUMENT NUMBER: 124:117015
ORIGINAL REFERENCE NO.: 124:21796h,21797a
TITLE: The chemistry of indoles. 75. Preparations of tryptamine-4,5-diones and their Diels-Alder and nucleophilic addition reactions
AUTHOR(S): Somei, Masanori; Fukui, Yoshikazu; Hasegawa, Masakazu
CORPORATE SOURCE: Faculty of Pharmaceutical Sciences, Kanazawa University, Kanazawa, 920, Japan
SOURCE: Heterocycles (1995), 41(10), 2157-60
CODEN: HTCYAM; ISSN: 0385-5414
PUBLISHER: Japan Institute of Heterocyclic Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 124:117015
ED Entered STN: 08 Nov 1995
AB Syntheses of Nb-acetyltryptamine-4,5-dione and (±)-Nb-acetyltryptophan- 4,5-dione Me ester are reported. They are excellent dienophiles as well as good electrophiles and produced 6,7-disubstituted indoles in Diels-Alder reaction and various 7-substituted indoles with nucleophiles.
IT 1210-83-9
RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation and Diels-Alder and nucleophilic addition reactions of tryptamine
and tryptophan derivs.)
RN 1210-83-9 HCAPLUS
CN Acetamide, N-[2-(5-hydroxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 35 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:803061 HCAPLUS Full-text
DOCUMENT NUMBER: 123:223371
ORIGINAL REFERENCE NO.: 123:39735a,39738a
TITLE: Effects of pinealectomy and constant light exposure on day-night changes of melatonin binding sites in the goldfish brain

AUTHOR(S): Iigo, Masayuki; Furukawa, Kiyoshi; Hattori, Atsuhiko; Hara, Masayuki; Ohtani-Kaneko, Ritsuko; Suzuki, Takuro; Tabata, Mitsuo; Aida, Katsumi
CORPORATE SOURCE: Department of Anatomy, St. Marianna University School of Medicine, 2-16-1 Sugao, Miyamae-ku, Kawasaki, 216, Japan
SOURCE: Neuroscience Letters (1995), 197(1), 61-4
CODEN: NELED5; ISSN: 0304-3940
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 20 Sep 1995
AB Effects of pinealectomy and constant light exposure on day-night changes of melatonin binding sites in the goldfish brain were examined The d. and affinity of binding sites were higher at mid-day than at mid-night in sham-pinealectomized goldfish under light-dark cycles. The rhythms disappeared after pinealectomy, or constant light exposure both of which abolish plasma melatonin rhythms. The effects of pinealectomy and constant light exposure were not additive. These results indicate that diel changes of melatonin binding sites in the goldfish brain are regulated by endogenous melatonin of pineal origin.
IT 73-31-4, Melatonin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(effects of pinealectomy and constant light exposure on day-night changes of melatonin binding sites in the goldfish brain)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

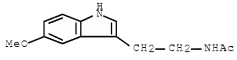


L39 ANSWER 36 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:666504 HCAPLUS Full-text
DOCUMENT NUMBER: 123:52763
ORIGINAL REFERENCE NO.: 123:9415a,9418a
TITLE: Day-night changes in melatonin levels in different organs of the cricket (Gryllus bimaculatus)
AUTHOR(S): Itoh, Masanori T.; Hattori, Atsuhiko; Sumi, Yawara; Suzuki, Takuro
CORPORATE SOURCE: Sch. Med., St. Marianna Univ., Kawasaki, 216, Japan
SOURCE: Journal of Pineal Research (1995), 18(3), 165-9
CODEN: JPRSE9; ISSN: 0742-3098
PUBLISHER: Munksgaard
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 Jul 1995
AB Day-night levels of melatonin were determined in different organs of adult female crickets (G. bimaculatus) exposed to a 12/12 light/dark cycle, using reversed-phase HPLC coupled with fluorometric detection. Melatonin levels in the compound eye, brain, and palp were significantly higher during the dark period than during the light period, suggesting that a diurnal rhythm of

melatonin levels exists in these organs of crickets, with a peak during the dark period. Conversely, melatonin levels were significantly higher during the light period than the dark period in the cercus, ovipositor, antenna, hind-leg, and ovary. No significant day-night difference was found in the fore- and mid-legs, Malpighian tube, and digestive tube. Thus, these organs may have different melatonin-metabolizing systems compared to those found in the compound eye, brain, and palp. Differences in the phasing of the melatonin rhythm in various organs of the cricket suggest possible differences in melatonin function in these organs.

IT 73-31-4, Melatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(melatonin diurnal rhythm in organs of cricket)

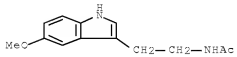
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



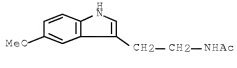
L39 ANSWER 37 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:631642 HCAPLUS Full-text
DOCUMENT NUMBER: 123:31959
ORIGINAL REFERENCE NO.: 123:5909a,5912a
TITLE: Identification of melatonin in plants and its effects on plasma melatonin levels and binding to melatonin receptors in vertebrates
AUTHOR(S): Hattori, Atsuhiko; Migitaka, Hiro; Iigo, Masayuki; Itoh, Masanori; Yamamoto, Koji; Ohtgani-Kaneko, Ritsuko; Hara, Masayuki; Suzuki, Takuro; Reiter, Russel J.
CORPORATE SOURCE: Sch. Med., St. Marianna Univ., Kawasaki, 216, Japan
SOURCE: Biochemistry and Molecular Biology International (1995), 35(3), 627-34
CODEN: BMBIES; ISSN: 1039-9712
PUBLISHER: Academic
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 22 Jun 1995
AB Twenty-four edible plants were investigated for the presence of melatonin, heretofore considered to be a mol. found only in the animal kingdom. The amount of melatonin in different plants varied greatly with highest melatonin being present in plants of the rice family. Melatonin was identified by RIA and verified by high performance liquid chromatog. with fluorescence detection. Feeding a diet containing plant products rich in melatonin to chicks increased RIAable levels of melatonin in their blood. Likewise, melatonin extracted from plants inhibited binding of [125I]iodomelatonin to rabbit brain. Thus, melatonin ingested in foodstuffs enters the blood and is capable of binding to melatonin binding sites in the brain of mammals.

IT 73-31-4, Melatonin
RL: BOC (Biological occurrence); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence); PROC (Process)
(identification of melatonin in plants and its effects on plasma

melatonin levels and binding to melatonin receptors in vertebrates)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

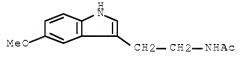


L39 ANSWER 38 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1995:476242 HCAPLUS Full-text
DOCUMENT NUMBER: 122:231319
ORIGINAL REFERENCE NO.: 122:42031a,42034a
TITLE: Tissue content of melatonin in relatively wild and domesticated Vulpes fulvus
AUTHOR(S): Kolesnikova, L. A.; Yaga, K.; Hattori, A.; Reiter, R. J.
CORPORATE SOURCE: Inst. Cytology and Genetics, Novosibirsk, Russia
SOURCE: Zhurnal Evolyutsionnoi Biokhimii i Fiziologii (1993), 29(5,6), 482-6
CODEN: ZEBFAJ; ISSN: 0044-4529
PUBLISHER: Nauka
DOCUMENT TYPE: Journal
LANGUAGE: Russian
ED Entered STN: 08 Apr 1995
AB Pineal, plasma and retina melatonin content and its diurnal dynamics have been studied in adult relatively wild and domesticated female silver foxes. Diurnal cyclicity of melatonin concentration in these tissues was observed with a min. during the day time, maximum in the middle of the night and intermediate level in the evening. Circadian melatonin dynamics was pronounced in non-domesticated as much as in domesticated females. However, since the pineal mass in domesticated animals is significantly smaller than in wild ones, the quantity of the hormone per 1 mg of the pineal tissue at night was much higher in the former. At the same time, plasma concentration of melatonin in both groups was the same. A possible cause of higher melatonin concentration in the pineal organ of domesticated foxes is discussed.
IT 73-31-4, Melatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(tissue melatonin rhythm in wild and domesticated Vulpes fulvus)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 39 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1995:332331 HCAPLUS Full-text
DOCUMENT NUMBER: 122:96942
ORIGINAL REFERENCE NO.: 122:18139a,18142a
TITLE: Melatonin inhibits luteinizing hormone releasing hormone (LHRH) induction of LH release from fetal rat pituitary cells
AUTHOR(S): Hattori, Atsuhiko; Herbert, Damon C.; Vaughan, Mary K.; Yaga, Ken; Reiter, Russel J.
CORPORATE SOURCE: Dep. Anatomy, St. Marianna Univ. Sch. Med., Kawasaki, 216, Japan
SOURCE: Neuroscience Letters (1995), 184(2), 109-12
CODEN: NELED5; ISSN: 0304-3940
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 04 Feb 1995
AB The in vitro effect of melatonin on the release of LH and FSH from fetal rat pituitary cells was investigated. An inhibition of LH release induced by 10-9 M LH releasing hormone (LHRH) was seen when cells were incubated with 10-9 M melatonin. FSH release was unaffected by either LHRH alone or LHRH in combination with melatonin. In addition, the inhibitory effect of melatonin was reduced by pretreatment of the pituitary cells with 10-10 M melatonin. These findings indicate that melatonin can act directly on the fetal pituitary gland to suppress LHRH-induced release of LH perhaps by a mechanism which eventually involves down-regulation of the melatonin receptors.
IT 73-31-4, Melatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(inhibition of LH release induced by LHRH)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



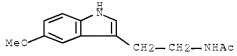
L39 ANSWER 40 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1994:697435 HCAPLUS Full-text
DOCUMENT NUMBER: 121:297435
ORIGINAL REFERENCE NO.: 121:54347a,54350a
TITLE: Identification of melatonin in different organs of the cricket, Gryllus bimaculatus
AUTHOR(S): Itoh, Masanori T.; Hattori, Atsuhiko; Sumi, Yawara; Suzuki, Takuro
CORPORATE SOURCE: Department Chemistry, St. Marianna University School Medicine, Miyamae, 216, Japan
SOURCE: Zoological Science (1994), 11(4), 577-81
CODEN: ZOSCEX; ISSN: 0289-0003
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 24 Dec 1994
AB The possible presence of melatonin was investigated in different tissues and organs of adult crickets by the use of reversed-phase HPLC with fluorometric detection and RIA. Melatonin was detected in the compound eye, antenna,

ovipositor, palp, cercus, leg, wing, brain, ovary, digestive tube, and Malpighian tube of the crickets, indicating that melatonin was very widely distributed in the crickets.

IT 73-31-4, Melatonin
RL: BOC (Biological occurrence); BSU (Biological study, unclassified); BIOL (Biological study); OCCU (Occurrence)
(melatonin distribution in organs of cricket)

RN 73-31-4 HCAPLUS

CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 41 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1994:622560 HCAPLUS Full-text

DOCUMENT NUMBER: 121:222560

ORIGINAL REFERENCE NO.: 121:40321a,40324a

TITLE: Peculiarities of melatonin biosynthesis in the pineal gland of relatively wild and domesticated silver foxes Vulpes fulvus

AUTHOR(S): Kolesnikova, L. A.; Serova, L. I.; Yaga, K.; Hattori, A.; Reiter, R.

CORPORATE SOURCE: Inst. Cytology and Genetics, Novosibirsk, Russia

SOURCE: Zhurnal Evolyutsionnoi Biokhimii i Fiziologii (1994), 30(3), 338-43
CODEN: ZEBFAJ; ISSN: 0044-4529

DOCUMENT TYPE: Journal

LANGUAGE: Russian

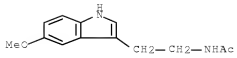
ED Entered STN: 12 Nov 1994

AB In earlier expts., it had been demonstrated that at night melatonin concentration in the pineal glands of foxes Vulpes fulvus which were subjected to a prolonged selection for domestic behavior, was higher than in undomesticated ones. A more detailed study of melatonin biosynthesis showed that concentration of melatonin precursor, namely serotonin, as well as the activity of N-acetyltransferase and hydroxyindole-O-methyltransferase participating in melatonin synthesis, together with the content of dopamine and noradrenaline which regulate this process, are practically identical in the pineal gland of both groups of animals. Possible causes of differences in melatonin concentration in the pineal tissue of domesticated and undomesticated foxes are discussed.

IT 73-31-4, Melatonin
RL: BSU (Biological study, unclassified); MFM (Metabolic formation); BIOL (Biological study); FORM (Formation, nonpreparative)
(melatonin formation by pineal gland of wild and domesticated silver fox)

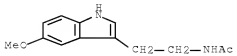
RN 73-31-4 HCAPLUS

CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

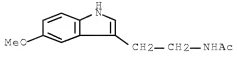


L39 ANSWER 42 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1994:450518 HCAPLUS Full-text
DOCUMENT NUMBER: 121:50518
ORIGINAL REFERENCE NO.: 121:8923a,8926a
TITLE: The pineal melatonin rhythm and its regulation by light in a subterranean rodent, the valley pocket gopher (Thomomys bottae)
AUTHOR(S): Reiter, Russel J.; Reiter, M. Nancy; Hattori, Atsuhiko; Yaga, Ken; Herbert, Damon C.; Barlow-Walden, Lornell
CORPORATE SOURCE: Health Sci. Center, Univ. Texas, San Antonio, TX, 78284-7762, USA
SOURCE: Journal of Pineal Research (1994), 16(3), 145-153
CODEN: JPRSE9; ISSN: 0742-3098
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 06 Aug 1994
AB The daytime and nighttime levels of pineal N-acetyltransferase (NAT) activity, hyroxyindole-O-methyltransferase (HIOMT) activity, and melatonin were measured in adult and female valley pocket gophers, Thomomys bottae. This species was chosen for study because it is a subterranean rodent that inhabits burrows whose openings to the surface closed. Therefore, under field conditions it is estimated that the pocket gopher spends roughly 99% of its time in absolute darkness in underground burrows. When wild captured pocket gophers were maintained under a light:dark cycle (light intensity during the day of roughly 140 μW/cm2), nighttime levels of pineal NAT activity and melatonin content were higher than values measured during the day; HIOMT activity in the pineal gland was similar in the day and at night. When pocket gophers were exposed to an extended light period (220 μW/cm2) 4 h into the night, the rise in melatonin synthesis normally associated with darkness onset was not inhibited. Also, when gophers were acutely exposed to a light intensity of 400 μW/cm2 for 1 h beginning 4 h after darkness onset, neither high nocturnal levels of pineal NAT nor pineal melatonin contents were reduced. Finally, when pocket gophers were exposed to a 600 μW/cm2 light intensity at either 4 h or 8 h into dark period, pineal melatonin synthesis remained elevated at a level comparable to that measured in dark-exposed controls. The results show that under controlled laboratory conditions the pineal gland of the valley pocket gopher, a species that in its natural habitat spends .apprx.99% of its time in absolute darkness, exhibits higher melatonin synthesis during night than during the day. While the rhythm in pineal melatonin production in the pocket gopher is clearly synchronized by the prevailing light:dark cycle, high nighttime pineal melatonin synthesis is not readily inhibited by light in the intensity range of 220-600 μW/cm2. In terms of its relative insensitivity to light at night, the pineal gland of the valley pocket gopher resembles that of other diurnally active rodents.
IT 73-31-4, Melatonin
RL: BIOL (Biological study)
(pineal rhythm of, light regulation of, in valley pocket gopher)
RN 73-31-4 HCAPLUS

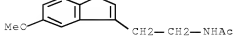
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 43 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1994:431484 HCAPLUS Full-text
DOCUMENT NUMBER: 121:31484
ORIGINAL REFERENCE NO.: 121:5753a,5756a
TITLE: Phototransduction-related circadian changes in indoleamine metabolism in the chick pineal gland in vivo
AUTHOR(S): Sun, Jih Hsing; Reiter, Russel J.; Hattori, Atsuhiko; Yaga, Ken; Herbert, Damon C.; Tsin, Andrew T.C.
CORPORATE SOURCE: Dep. Anat., Kaohsiung Med. Coll., Kaohsiung, Taiwan
SOURCE: Journal of Pineal Research (1993), 15(3), 132-7
CODEN: JPRSE9; ISSN: 0742-3098
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 23 Jul 1994
AB The purpose of this study was to examine the day/night levels of pineal melatonin and its rate limiting enzyme N-acetyltransferase (NAT) in relation to the ratio of 11-cis- to all-trans-retinal. Three-week-old chicks were placed in 12:12 light:dark (LD 12:12) cycle for 1 wk, pineals were collected during the light phase at 1500 (i.e., after 10 h light), during the dark phase at 1900 (i.e., 2 h after dark), at 2100 (i.e., 4 h after dark), and at 2300 (i.e., 6 h after dark) and after light extension to 1900. Light-sensitive 11-cis-retinal in the chick pineal has the same diurnal rhythm as NAT and melatonin; all constituents increased within 2 h of darkness onset (at 1900) and reached their peak after 4 h of dark. All values were lowest during the light phase at 1500. Low values for 11-cis-retinal, NAT, and melatonin were also seen in the group of chicks which experienced light extension to 1900. The data indicate that in vivo light plays a major role in triggering rhodopsin-bound 11-cis-retinal production within 2-4 h after darkness onset; this change likely serves as the signal for the subsequent formation of the hormonal product of the pineal gland, melatonin.
IT 73-31-4, Melatonin
RL: PROC (Process)
(of pineal gland, of bird, circadian rhythm of, light in relation to)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

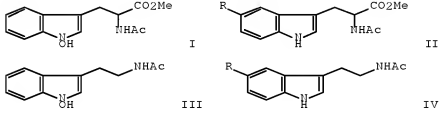


L39 ANSWER 44 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1994:319805 HCAPLUS Full-text
DOCUMENT NUMBER: 120:319805
ORIGINAL REFERENCE NO.: 120:56161a
TITLE: Characteristics, day-night changes, subcellular distribution and localization of melatonin binding sites in the goldfish brain
AUTHOR(S): Iigo, Masayuki; Kobayashi, Makito; Ohtani-Kaneko, Ritsuko; Hara, Masayuki; Hattori, Atsuhiko; Suzuki, Takuro; Aida, Katsumi
CORPORATE SOURCE: Department of Anatomy, St. Marianna University School of Medicine, 2-16-1 Sugao, Miyamae-ku, Kawasaki, 216, Japan
SOURCE: Brain Research (1994), 644(2), 213-20
CODEN: BRREAP; ISSN: 0006-8993
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 25 Jun 1994
AB Melatonin-binding sites in the goldfish brain were characterized by radioreceptor assay using 2-[125I]iodomelatonin as the radioligand. Specific binding of 2-[125I]iodomelatonin was rapid, stable, saturable, and reversible. Saturation expts. demonstrated that 2-[125I]iodomelatonin binds to a single class of receptor site with an affinity constant (Kd) of 29.8 pM and a total binding capacity (Bmax) of 11.47 fmol/mg protein at mid-light. At mid-dark, the Bmax value decreased significantly to 7.90 fmol/mg protein with no significant variation in the Kd value (33.8 pM). Competition expts. revealed the following order of pharmacol. affinities: 2-iodomelatonin > melatonin > 6-hydroxymelatonin > N-acetyl-5- hydroxytryptamine > 5-methoxytryptamine > 5-methoxytryptophol > 5-methoxyindole-3-acetic acid. 5-Hydroxytryptamine, 5-hydroxytryptophol, 5-hydroxyindole-3-acetic acid, norepinephrine, and acetylcholine exhibited no inhibition. Subcellular distribution of melatonin-binding sites was demonstrated to be greatest in the P2 and P3 fractions as compared with the P1 fraction. Localization of melatonin-binding sites in discrete brain areas was determined to be highest in the optic tectum-thalamus and hypothalamus, intermediate in the telencephalon, cerebellum, and medulla oblongata, and lowest in the olfactory bulbs and pituitary gland. These results suggest that characteristics of melatonin receptors are highly conserved during evolution and that in this species melatonin plays neuromodulatory roles in the central nervous system through specific receptors.
IT 73-31-4, Melatonin
RL: BIOL (Biological study)
(receptors for, of brain of goldfish, rhythm and distribution of)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 45 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1994:31170 HCAPLUS Full-text

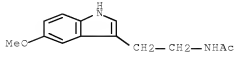
DOCUMENT NUMBER: 120:31170
ORIGINAL REFERENCE NO.: 120:5901a,5904a
TITLE: Chemistry of indoles. 65. Nucleophilic substitution reaction of 1-hydroxytryptophan and 1-hydroxytryptamine derivatives (regioselective syntheses of 5-substituted derivatives of tryptophan and tryptamine)
AUTHOR(S): Somei, Masanori; Fukui, Yoshikazu
CORPORATE SOURCE: Fac. Pharm. Sci., Kanazawa Univ., Kanazawa, 920, Japan
SOURCE: Heterocycles (1993), 36(8), 1859-66
CODEN: HTCYAM; ISSN: 0385-5414
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 120:31170
ED Entered STN: 22 Jan 1994
GI



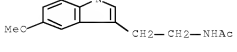
AB Regioselective nucleophilic substitution at the 5-position of indole nucleus was observed in the reaction of 1-hydroxytryptophan and 1-hydroxytryptamine derivs. with acids, suggesting the mechanism of serotonin formation in the central nervous system. Thus, the treatment of 1-hydroxytryptophan derivative I with 10% H2SO4 in refluxing MeOH for 30 min gave 71% 5-methoxy derivative II (R = OMe). When 3% HCl was used instead of H2SO4 in the above reaction, 5-methoxy derivative II (R = OMe) and 5-chloro derivative II (R = Cl) were obtained in 32 and 18% yields, resp. The treatment of 1-hydroxytryptamine derivative III with 10% H2SO4 in MeOH at room temperature for 24 h gave 17% melatonin IV (R = OMe) and 10% tryptamine IV (R = H).

IT 73-31-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation and formylation of)

RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L39 ANSWER 46 OF 46 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1993:441457 HCAPLUS Full-text
DOCUMENT NUMBER: 119:41457
ORIGINAL REFERENCE NO.: 119:7371a,7374a
TITLE: Unusual responses of nocturnal pineal melatonin synthesis and secretion to swimming: Attempts to define mechanisms
AUTHOR(S): Yaga, Ken; Tan, Dun Xian; Reiter, Russel J.; Manchester, Lucien C.; Hattori, Atsuhiko
CORPORATE SOURCE: Health Sci. Cent., Univ. Texas, San Antonio, TX, 78284-7762, USA
SOURCE: Journal of Pineal Research (1993), 14(2), 98-103
CODEN: JPRSE9; ISSN: 0742-3098
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 07 Aug 1993
AB The effect of swimming at night on rat pineal melatonin synthesis was compared with that of light exposure at night. Rats were forced to swim at 0030 h (lights out at 2000 h) and sacrificed by decapitation 15 and 30 min later, immediately after swimming. Other groups of animals were exposed to white light (650 μW/cm2) for 15 and 30 min at same time. Swimming caused a rapid drop in the melatonin content in the pineal gland; however, the activity of N-acetyltransferase (NAT), the supposed rate limiting enzyme in the melatonin production, was not changed. Despite the drop in pineal melatonin levels, serum concns. of the indole remained elevated in the rats that swam. In contrast, melatonin levels in the pineal and serum of light exposed rats fell precipitously, accompanied by a suppression of NAT activity. Since it was anticipated that the strenuous exercise associated with swimming may induce release of atrial natriuretic peptide (ANP) from the heart, which in turn could cause the release of pineal melatonin, in a second study physiol. saline was injected (i.v.) to stretch the cardiac muscle and release ANP. Three mL of normal saline was injected during the day into the jugular vein of anesthetized rats that were pretreated with isoproterenol to stimulate pineal melatonin production Animals were killed 15 min after the saline injection, and pineal NAT activity and pineal melatonin levels were measured. The saline injections caused no alteration in the elevated levels of either NAT or melatonin. These data suggest that the disparity in pineal NAT activity (which was high) and pineal melatonin (which was low), in animals swimming at night, may not be caused by ANP which is released during strenuous exercise such as swimming.
IT 73-31-4, Melatonin
RL: FORM (Formation, nonpreparative)
(formation of, by pineal gland in nocturnal exercise)
RN 73-31-4 HCAPLUS
CN Acetamide, N-[2-(5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



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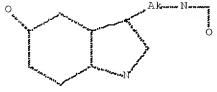


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L33               STR
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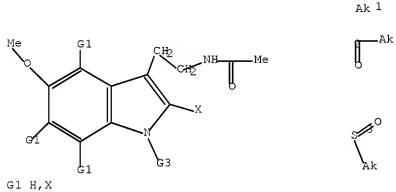


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 G2 H,Ak
 G3 H,Cy,OH,[@1],[@2],[@3]
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Structure attributes must be viewed using STN Express query preparation.
L35           27 SEA FILE=REGISTRY SUB=L6 SSS FUL L33
L37          185 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L35
L38          167 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L37 AND (PRY<=2005 OR
                 AY<=2005 OR PY<=2005)


=> S L38 NOT L39
L43          164 L38 NOT L39

=> D IBIB ED ABS HITSTR 1-20; D IBIB ED ABS HITSTR 80-100; D IBIB ED ABS HITSTR
144-164

L43  ANSWER 1 OF 164  HCAPLUS  COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER:         2007:542703  HCAPLUS  Full-text
DOCUMENT NUMBER:          147:39045
TITLE:                    New formulations of indole derivatives for treating
                          morphine-withdrawal syndrome
INVENTOR(S):              Lu, Qiujun; Huang, Rongqing; Ren, Jianping; Luo,
                          Chuanhuan; Xiao, Bingkun; Chen, Yuanyuan; Wen, Liqing;
                          Bian, Guangxing; Zhang, Min
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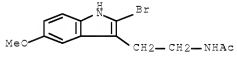
PATENT ASSIGNEE(S): Institute of Radiation Medicine, Academy of Military Medical Sciences, Chinese People's Liberation Army, Peop. Rep. China
SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 8pp. CODEN: CNXXEV
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
CN 1961877	A	20070516	CN 2005-10124412	20051111 <--
PRIORITY APPLN. INFO.:			CN 2005-10124412	20051111 <--

OTHER SOURCE(S): MARPAT 147:39045
ED Entered STN: 21 May 2007
AB The invention provides new formulations of indole derivs. for treating morphine-withdrawal syndrome. The active constituent is indole derivative or its pharmaceutical salt with general formula on Pg 2, wherein R is -CH2CH2OCOR2, -CH2CH2COOR2, -CH2CH2NHCOR2, -CH2CH2CONHR2 or -CH2CH2NHSO2R2; R1 and R2 is independently C1-4 alkyl; X is halogen atom. In embodiment, the invention relates to use of 2-bromo-N-acetyl-5- methoxytryptamine in preparing medicaments for treating morphine-withdrawal syndrome. The inventive product has advantages of small toxicity, remarkable therapeutical effect, no addiction, convenient application and reliable security.
IT 142959-59-9
RL: THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(new formulations of indole derivs. for treating morphine-withdrawal syndrome)
RN 142959-59-9 HCAPLUS
CN Acetamide, N-[2-(2-bromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 2 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:218509 HCAPLUS Full-text
DOCUMENT NUMBER: 146:316667
TITLE: Unusual effect of a remote substituent on chlorination of melatonin
AUTHOR(S): Bidylo, T. I.; Yurovskaya, M. A.
CORPORATE SOURCE: M. V. Lomonosov Moscow State University, Moscow, 119234, Russia
SOURCE: Chemistry of Heterocyclic Compounds (New York, NY, United States) (2005), 41(10), 1339-1341 CODEN: CHCCAL; ISSN: 0009-3122
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 146:316667
ED Entered STN: 10 Mar 2006

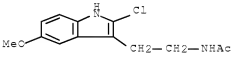
AB N-Acetylmelatonin was chlorinated regiospecifically at the 2-position by NCS or dichloramine T. Removal of the N-protective group with base gave 2-chloromelatonin.

IT 118747-02-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(effect of a remote substituent on chlorination of melatonin)

RN 118747-02-7 HCAPLUS

CN Acetamide, N-[2-(2-chloro-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 3 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1276235 HCAPLUS Full-text

DOCUMENT NUMBER: 144:166257

TITLE: Characterization of the melatoninergic MT3 binding site on the NRH:quinone oxidoreductase 2 enzyme

AUTHOR(S): Mailliet, Francois; Ferry, Gilles; Vella, Fanny; Berger, Sylvie; Coge, Francis; Chomarat, Pascale; Mallet, Catherine; Guenin, Sophie-Penelope; Guillaumet, Gerald; Viaud-Massuard, Marie-Claude; Yous, Said; Delagrange, Philippe; Boutin, Jean A.

CORPORATE SOURCE: Division de Pharmacologie Moleculaire et Cellulaire, Institut de Recherches Servier, Croissy-sur-Seine, 78290, Fr.

SOURCE: Biochemical Pharmacology (2005), 71(1-2), 74-88
CODEN: BCPCA6; ISSN: 0006-2952

PUBLISHER: Elsevier B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 06 Dec 2005

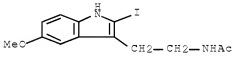
AB Melatonin acts through a series of mol. targets: the G-protein coupled receptors, MT1 and MT2, and a third binding site, MT3, recently identified as the enzyme dihydronicotinamide riboside (NRH):quinone oxidoreductase 2 (QR2). The relationship between the multiple physiol. functions of melatonin and this enzyme remains unclear. Because of the relationship of QR2 with the redox status of cells, these studies could bring the first tools for a mol. rationale of the antioxidant effects of melatonin. In the present paper, we used a QR2-stably expressing cell line and hamster kidneys to compare the 2-[125I]-iodomelatonin and 2-[125I]-iodo-5- methoxycarbonylamino-N-acetyltryptamine binding data, and to characterize the MT3 binding site. We designed and tested compds. from two distinct chemical series in a displacement assay of the two MT3 ligands, 2-[125I]-iodomelatonin and 2-[125I]-iodo-5-methoxycarbonylamino-N- acetyltryptamine from their cloned target. We also tested their ability to inhibit QR2 catalytic activity. These compds. were separated into two classes: those that bind within the catalytic site (and being inhibitors) and those that bind outside it (and therefore not being inhibitors). Compds. range from potent ligands (Ki = 1 nM) to potent inhibitors (14 nM), and include one compound [NMDPEF: N-[2-(2-methoxy-6H-dipyrido[2,3-a:3,2- e]pyrrolizin-11-yl)ethyl]-2-furamide] active on

both parameters in the low nanomolar range. To dissect the physio-pathol. pathways in which QR2, MT3 and melatonin meet, one needs more compds. binding to MT3 and/or inhibitors of QR2 enzymic activity. The compds. described in the present paper are new tools for such a task.

IT 93515-00-5, 2-Iodomelatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(characterization of the melatoninergic MT3 binding site on the dihydronicotinamide riboside:quinone oxidoreductase 2 enzyme)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 50 THERE ARE 50 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 4 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:612009 HCAPLUS Full-text
DOCUMENT NUMBER: 143:115396
TITLE: Preparation of aryl substituted melatonin derivatives as anesthetics
INVENTOR(S): Tao, Chunlin; Yu, Chengzhi; Desai, Neil P.; Trieu, Vuong
PATENT ASSIGNEE(S): American Bioscience, Inc, USA
SOURCE: PCT Int. Appl., 31 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005062992	A2	20050714	WO 2004-US43997	20041223 <--
WO 2005062992	A3	20050818		
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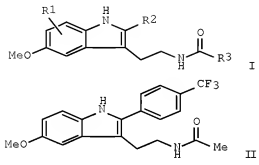
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
CA 2551117	A1	20050714	CA 2004-2551117	20041223 <--
EP 1701718	A2	20060920	EP 2004-815983	20041223 <--
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, FI, RO, CY, TR, BG, CZ, EE, HU, PL, SK, IS				
US 20070191463	A1	20070816	US 2007-583804	20070123 <--
PRIORITY APPLN. INFO.:			US 2003-531955P P	20031223 <--
			WO 2004-US43997 W	20041223 <--

OTHER SOURCE(S): CASREACT 143:115396; MARPAT 143:115396
ED Entered STN: 15 Jul 2005
GI



I

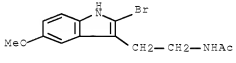
II

AB The invention provides 2-aryl substituted derivs. of melatonin of formula I [R1 = H, halo, nitrate; R2 = aryl; R3 = alkyl, aryl, (substituted) OH, etc.]. The invention further provides pharmaceutical compns. comprising such derivs., methods for preparing such derivs., and methods of using such derivs. to induce general anesthesia, sedation, and/or hypnotic or sleep effects in a patient, and to treat conditions affected by melatonin activity in a patient. Thus, II was prepared from 2-bromomelatonin and 4-trifluoromethylphenylboronic acid. The GABAA Cl channel binding activity of II was 13.1 μM IC50, and the anesthesia activity in rats was 20.8 min to awakening. Pharmaceutical compns. containing I are described.

IT 142959-59-9P
RL: PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(preparation of aryl melatonin derivs. as anesthetics)

RN 142959-59-9 HCAPLUS

CN Acetamide, N-[2-(2-bromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 5 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:547278 HCAPLUS Full-text
DOCUMENT NUMBER: 143:71772
TITLE: Methods and compositions for treatment of hypertension
INVENTOR(S): Czeisler, Charles A.; Scheer, Frank A. J. L.
PATENT ASSIGNEE(S): The Brigham and Women's Hospital, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 27 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent

LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 20050137247	A1	20050623	US 2004-20626	20041222 <--
WO 2005063240	A1	20050714	WO 2004-US43758	20041222 <--

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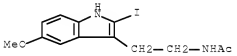
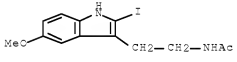
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRIORITY APPLN. INFO.: US 2003-531769P P 20031222 <--
OTHER SOURCE(S): MARPAT 143:71772
ED Entered STN: 24 Jun 2005
AB Methods and compns. for treating and/or preventing hypertension are provided. The methods involve administration of melatonin, or an analog thereof, to a subject. The methods and compns. may be used to treat various forms of hypertension, including essential hypertension.
IT 93515-00-5, 2-Iodomelatonin
RL: PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(melatonin receptor agonists for treatment of hypertension)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 6 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:506128 HCAPLUS Full-text
DOCUMENT NUMBER: 143:53667
TITLE: Ligand binding to the human MT2 melatonin receptor: The role of residues in transmembrane domains 3, 6, and 7
AUTHOR(S): Mazna, Petr; Berka, Karel; Jelinkova, Irena; Balik, Ales; Svoboda, Petr; Obsilova, Veronika; Obsil, Tomas; Teisinger, Jan
CORPORATE SOURCE: Institute of Physiology, Academy of Sciences of the Czech Republic, Prague, 142 20, Czech Rep.
SOURCE: Biochemical and Biophysical Research Communications (2005), 332(3), 726-734
CODEN: BBRCA9; ISSN: 0006-291X
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English

ED Entered STN: 14 Jun 2005
AB To better understand the mechanism of interactions between G-protein-coupled melatonin receptors and their ligands, the authors' previously reported homol. model of human MT2 receptor with docked 2-iodomelatonin was further refined and used to select residues within TM3, TM6, and TM7 potentially important for receptor-ligand interactions. Selected residues were mutated and radioligand-binding assay was used to test the binding affinities of hMT2 receptors transiently expressed in HEK293 cells. The authors' data demonstrate that residues N268 and A275 in TM6 as well as residues V291 and L295 in TM7 are essential for 2-iodomelatonin binding to the hMT2 receptor, while TM3 residues M120, G121, V124, and I125 may participate in binding of other receptor agonists and/or antagonists. Presented data also hint at possible specific interaction between the side-chain of Y188 in second extracellular loop and N-acetyl group of 2-iodomelatonin.
IT 93515-00-5, 2-Iodomelatonin
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(transmembrane domain residues roles in ligand binding to human MT2 melatonin receptor)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

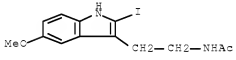
L43 ANSWER 7 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:95384 HCAPLUS Full-text
DOCUMENT NUMBER: 142:274381
TITLE: 2-Iodomelatonin prevents apoptosis of cerebellar granule neurons via inhibition of A-type transient outward K+ currents
AUTHOR(S): Hu, Chang-Long; Liu, Zheng; Gao, Zhen-Yu; Zhang, Zhi-Hong; Mei, Yan-Ai
CORPORATE SOURCE: Center for Brain Science Research, Department of Physiology and Biophysics, School of Life Sciences, Fudan University, Shanghai, Peop. Rep. China
SOURCE: Journal of Pineal Research (2005), 38(1), 53-61
CODEN: JPRSE9; ISSN: 0742-3098
PUBLISHER: Blackwell Publishing Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 Feb 2005
AB Compelling evidence indicates that excessive K+ efflux and intracellular K+ depletion are key early steps in apoptosis. Previously, the authors reported that apoptosis of cerebellar granular neurons induced by incubation under low K+ (5 mM) conditions was associated with an increase in delayed rectifier outward K+ current (IK) amplitude and caspase-3 activity. Moreover, the melatonin receptor antagonist 4P-PDOT abrogated the effects of 2-iodomelatonin on IK augmentation, caspase-3 activity and apoptosis. Incubation under low K+/serum-free conditions for 6 h led to a dramatic increase in the A-type

transient outward K+ current (IA) (a 27% increase; n = 31); in addition, fluorescence staining showed that under these conditions, cell viability decreased by 30% compared with the control. Treatment with 2-iodomelatonin inhibited the IA amplitude recorded from control and apoptotic cells in a concentration-dependent manner and modified the IA channel activation kinetics of cells under control conditions. Moreover, 2-iodomelatonin increased the viability of cell undergoing apoptosis. Interestingly, 4P-PDOT did not abrogate the effect of 2-iodomelatonin on IA augmentation under these conditions; in the presence of 4P-PDOT (100 μM), 2-iodomelatonin reduced the average IA by 41±4%, which was similar to the effect of 2-iodomelatonin alone. These results suggest that the neuroprotective effects of 2-iodomelatonin are not only because of its antioxidant or receptor-activating properties, but rather that 2-iodomelatonin may inhibit IA channels by acting as a channel blocker.

IT 93515-00-5, 2-Iodomelatonin
RL: DMA (Drug mechanism of action); PAC (Pharmacological activity); THU (Therapeutic use); BIOL (Biological study); USES (Uses)
(2-iodomelatonin prevents apoptosis of rat cerebellar granule neurons via inhibition of A-type transient outward potassium currents)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 8 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2004:623766 HCAPLUS Full-text

DOCUMENT NUMBER: 141:328737

TITLE: Melatonin binding sites in the brain of European sea bass (Dicentrarchus labrax)

AUTHOR(S): Bayarri, Maria Jose; Garcia-Allegue, Rosa; Munoz-Cueto, Jose Antonio; Madrid, Juan Antonio; Tabata, Mitsuo; Sanchez-Vazquez, F. Javier; Iigo, Masayuki

CORPORATE SOURCE: Department of Physiology and Pharmacology, Faculty of Biology, University of Murcia, Murcia, 30100, Spain

SOURCE: Zoological Science (2004), 21(4), 427-434
CODEN: ZOSCEX; ISSN: 0289-0003

PUBLISHER: Zoological Society of Japan

DOCUMENT TYPE: Journal

LANGUAGE: English

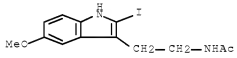
ED Entered STN: 04 Aug 2004

AB Characteristics, day-night changes, GTPγS modulation, and localization of melatonin binding sites in the brain of a marine teleost, European sea bass Dicentrarchus labrax, were studied by radioreceptor assay using 2-[125I]iodomelatonin as a radioligand. The specific binding to the sea bass brain membranes was rapid, stable, saturable and reversible. The radioligand binds to a single class of receptor site with the affinity (Kd) of 9.3 pM and total binding capacity (Bmax) of 39.08 fmol/mg protein at mid-light under light-dark (LD) cycles of 12:12. Day-night changes were observed neither in

the Kd nor in the Bmax under LD 12:12. Treatment with GTPγS significantly increased the Kd and decreased the Bmax both at mid-light and mid-dark. The binding sites were highly specific for 2-phenylmelatonin, 2-iodomelatonin, melatonin, and 6-chloromelatonin. Distribution of melatonin binding sites in the sea bass brain was uneven. The Bmax was determined to be highest in mesencephalic optic tectum-tegmentum and hypothalamus, intermediate in telencephalon, cerebellum-vestibulolateral lobe and medulla oblongata-spinal cord, and lowest in olfactory bulbs with the Kd in the low picomolar range. These results indicate that melatonin released from the pineal organ and/or retina plays neuromodulatory roles in the sea bass brain via G protein-coupled melatonin receptors.

IT 93515-00-5, 2-Iodomelatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin analogs and neurotransmitters effects on iodomelatonin binding by receptors of brain of European sea bass Dicentrarchus labrax)

RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 41 THERE ARE 41 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 9 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:	2004:437076 HCAPLUS Full-text
DOCUMENT NUMBER:	141:117520
TITLE:	Antioxidant and cytoprotective activity of indole derivatives related to melatonin
AUTHOR(S):	Mor, Marco; Spadoni, Gilberto; Diamantini, Giuseppe; Bedini, Annalida; Tarzia, Giorgio; Silva, Claudia; Vacondio, Federica; Rivara, Mirko; Plazzi, Pier Vincenzo; Franceschini, Davide; Zusso, Morena; Giusti, Pietro
CORPORATE SOURCE:	Dipartimento Farmaceutico, Universita degli Studi di Parma, Parma, 1-43100, Italy
SOURCE:	Advances in Experimental Medicine and Biology (2003), 527(Developments in Tryptophan and Serotonin Metabolism), 567-575 CODEN: AEMBAP; ISSN: 0065-2598
PUBLISHER:	Kluwer Academic/Plenum Publishers
DOCUMENT TYPE:	Journal
LANGUAGE:	English

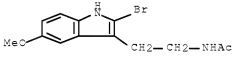
ED Entered STN: 31 May 2004

AB Melatonin (MLT) is known for its radical scavenger activity, which had been related to its ability to protect neuronal cells from different kinds of oxidative stress. In particular, MLT protects rat cerebellum granular cells from kainate-induced necrosis at concns. higher than 100 μM, and is able to reduce lipoperoxidn. induced by radical stress in rat brain homogenate at similar concns. On the other hand, MLT has nanomolar affinity for its membrane receptors (MT1 and MT2), and these are completely saturated at the high concns. employed when the cytoprotective effect is observed Other indole

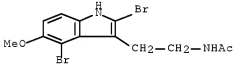
derivs. are also known to possess antioxidant and cytoprotective activity. In order to dissociate the cytoprotective effect of MLT from its receptor affinity, and to investigate the structure-activity relationships (SAR) between this effect and some potentially relevant chemical properties, the authors prepared a series of indole derivs., where the structure of MLT was gradually modulated, varying the 5-methoxy group nature and position, the acylaminoethyl chain position, and by the introduction of lipophilic groups. These modifications resulted in a set of compds. having different receptor affinity and intrinsic activity, different lipophilicity, and different substitution at the indole nucleus. The compds. were tested for their antioxidant potency by the ABTS test and by inhibition of rat brain homogenate lipoperoxidn.; their cytoprotective effect was also estimated from the inhibition of.

IT 142959-59-9 214416-47-4
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antioxidant and cytoprotective activity of indole derivs. related to melatonin)

RN 142959-59-9 HCAPLUS
CN Acetamide, N-[2-(2-bromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



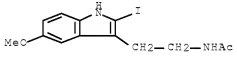
RN 214416-47-4 HCAPLUS
CN Acetamide, N-[2-(2,4-dibromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 25 THERE ARE 25 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 10 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:160896 HCAPLUS Full-text
DOCUMENT NUMBER: 140:350946
TITLE: Melatonin receptor agonist 2-iodomelatonin prevents apoptosis of cerebellar granule neurons via K+ current inhibition
AUTHOR(S): Jiao, Song; Wu, Ming-Ming; Hu, Chang-Long; Zhang, Zhi-Hong; Mei, Yan-Ai
CORPORATE SOURCE: Center for Brain Science Research, Department of Physiology and Biophysics, School of Life Sciences, Fudan University, Shanghai, Peop. Rep. China
SOURCE: Journal of Pineal Research (2004), 36(2), 109-116

CODEN: JPRSE9; ISSN: 0742-3098
PUBLISHER: Blackwell Publishing Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 27 Feb 2004
AB Activation of K+ current plays a critical role in the control of programmed cell death. In the present study, whole-cell patch-clamp recording, a caspase-3 activity assay, and flow cytometric anal. were used to examine the effects of the MT2 melatonin receptor agonist 2-iodomelatonin on the delayed-rectifier K+ current (IK) and the prevention of apoptosis. It was found that apoptosis of cerebellar granular neurons induced by low-K+ (5 mM) incubation was associated with an increase in IK amplitude and caspase-3 activity. After 6 h of low-K+ treatment, IK was increased by 45% (n = 86). Flow cytometry showed that the apoptosis rate increased by 333% compared with the control neurons. In addition, exposure of cultured granule cells to low K+ also resulted in a significant activation of caspase-3, by 466%. 2-Iodomelatonin (10 μM in injection pipet) inhibited the IK amplitude recorded from control cells and from cells undergoing apoptosis. However, 2-iodomelatonin only modified the IK-channel activation kinetics of cells under both conditions. Furthermore, 2-iodomelatonin reduced the rate of apoptosis and caspase-3 activation, by 66 and 64%, resp. The melatonin receptor antagonist, 4P-PDOT, abrogated the effect of 2-iodomelatonin on the IK augmentation, caspase-3 activity, and apoptosis. These results suggest that the neuroprotective effects of melatonin are not only because of its function as a powerful antioxidant, but also to its interactions with specific receptors. The effect of 2-iodomelatonin against apoptosis may be mediated by activating a melatonin receptor, which modulates IK channels and reduces K+ efflux.
IT 93515-00-5, 2-Iodomelatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin receptor agonist 2-iodomelatonin prevents apoptosis of cerebellar granule neurons via K+ current inhibition)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 28 THERE ARE 28 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

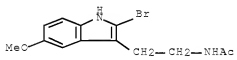
L43 ANSWER 11 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:160894 HCAPLUS Full-text
DOCUMENT NUMBER: 140:350773
TITLE: Indole-based analogs of melatonin: In vitro antioxidant and cytoprotective activities
AUTHOR(S): Mor, Marco; Silva, Claudia; Vacondio, Federica; Plazzi, Pier Vincenzo; Bertoni, Simona; Spadoni, Gilberto; Diamantini, Giuseppe; Bedini, Annalida; Tarzia, Giorgio; Zusso, Morena; Franceschini, Davide; Giusti, Pietro
CORPORATE SOURCE: Dipartimento Farmaceutico, Universita degli Studi di Parma, Parma, Italy
SOURCE: Journal of Pineal Research (2004), 36(2),

95-102
CODEN: JPRSE9; ISSN: 0742-3098
PUBLISHER: Blackwell Publishing Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 27 Feb 2004

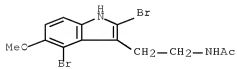
AB The known neuroprotective actions of melatonin could be due to its antioxidant or radical scavenging activity, or they could be due to specific interactions of the indole with its receptors. A study of structure-activity relationships may provide useful information when a validated macromol. target has not been (or is not) identified. A set of indole derivs., with changes in the 5-methoxy and acylamino groups, the side chain position and the lipophilic/hydrophilic balance, were selected and tested for their in vitro antioxidant potency in the ABTS (2,2'-azinobis (3-ethylbenzothiazoline-6-sulfonic acid disodium salt)) and thiobarbituric acid reactive substances (TBARS) assays and for their cytoprotective activity against kainate excitotoxicity on cerebellar cell cultures. No quant. model was able to relate the potencies obtained in the two antioxidant assays, probably because they are related to different physico-chemical properties. However, the lipophilicity of the compds. and the antioxidant potency in the TBARS assay were linearly correlated. This may be due to improved access to the lipidic substrate, where the antioxidant action occurs. In the cytoprotection assay, most compds. showed potencies comparable with or lower than melatonin. An exception was N-[2-(5-methoxy-1H-indol-2-yl)ethyl]acetamide (12), yielding, at 50 μM, percentages of cell vitality higher than 75%, while melatonin EC50 was 333 μM. No correlation was observed between cytoprotective and antioxidant potencies, nor with MT1 or MT2 receptor affinity. Compound 12 is a low-affinity antagonist at melatonin membrane receptors, and one of the most potent compds. in the antioxidant assays; its cytoprotective potency and the absence of agonist activity at melatonin membrane receptors make it a valid candidate for further investigations.

IT 142959-59-9P 214416-47-4P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(structure-activity relationship studies of indole-based analogs of melatonin with regards to their antioxidant and cytoprotective activities)

RN 142959-59-9 HCAPLUS
CN Acetamide, N-[2-(2-bromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

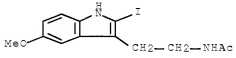


RN 214416-47-4 HCAPLUS
CN Acetamide, N-[2-(2,4-dibromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 59 THERE ARE 59 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

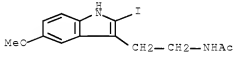
L43 ANSWER 12 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:150008 HCAPLUS Full-text
DOCUMENT NUMBER: 141:65264
TITLE: The study of the mechanism of binding of human ML1A melatonin receptor ligands using molecular modeling
AUTHOR(S): Ivanov, A. A.; Voronkov, A. E.; Baskin, I. I.; Palyulin, V. A.; Zefirov, N. S.
CORPORATE SOURCE: Department of Chemistry, Moscow State University, Moscow, 119992, Russia
SOURCE: Doklady Biochemistry and Biophysics (2004), 394, 49-52
CODEN: DBBOAL; ISSN: 1607-6729
PUBLISHER: MAIK Nauka/Interperiodica Publishing
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 24 Feb 2004
AB A mol. model of human melatonin receptor (ML1A) was developed using homol.-based modeling and the mechanisms of agonist binding with these receptors were studied. The geometry of the mol. model obtained, which contained both the transmembrane α-helixes and all hydrophilic loops, was optimized using the Tripos force field to attain the most stable conformation. Mol. docking of five different agonists of melatonin receptor was performed using exptl. data on site-directed mutagenesis. Results of melatonin docking showed that the ligands interact with receptor due to the formation of three strong hydrogen bonds. Hos195, Ser 110, and Ser 114 were found to be the most important for ligand binding of human ML1A melatonin receptor.
IT 93515-00-5
RL: BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study)
(mechanism of binding of human ML1A melatonin receptor ligands studied using mol. modeling)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 12 THERE ARE 12 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 13 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:81673 HCAPLUS Full-text
DOCUMENT NUMBER: 140:281704
TITLE: Melatonin attenuates rat carotid chemoreceptor response to hypercapnic acidosis
AUTHOR(S): Tjong, Yung Wui; Chen, Yueping; Liong, Emily C.; Ip, Shing Fat; Tipoe, George L.; Fung, Man Lung

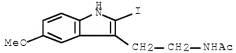
CORPORATE SOURCE: Department of Physiology, University of Hong Kong, Hong Kong, Peop. Rep. China
SOURCE: Journal of Pineal Research (2004), 36(1), 49-57
CODEN: JPRSE9; ISSN: 0742-3098
PUBLISHER: Blackwell Publishing Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 02 Feb 2004
AB Respiratory activity is under circadian modulation and the physiol. mechanisms may involve the pineal secretory product, melatonin, and the carotid chemoreceptor. We hypothesized that melatonin modulates the carotid chemoreceptor response to hypercapnic acidosis. To determine whether the effect of melatonin on the chemoreceptor response to hypercapnic acidosis is mediated by melatonin receptors in the chemosensitive cells, cytosolic calcium ([Ca2+]i) was measured by spectrofluorometry in fura-2-loaded glomus cells dissociated from rat carotid bodies. Melatonin (0.01 10 nM) per se did not change the [Ca2+]i levels of the glomus cells but it concentration-dependently attenuated the peak [Ca2+]i response to hypercapnic acidosis in the glomus cells. In addition, the [Ca2+]i response was attenuated by 2-iodomelatonin, an agonist of melatonin receptors. The melatonin-induced attenuation of the [Ca2+]i response to hypercapnic acidosis was abolished by pretreatment with an non-selective MT1/MT2 antagonist, luzindole, and by MT2 antagonists, 4-phenyl-2- propionamidotetraline or DH97. In situ hybridization study with antisense MT1 and MT2 receptor mRNA oligonucleotide probes showed an expression of MT1 and MT2 receptors in the rat carotid body. Also, melatonin attenuated the carotid afferent response to hypercapnic acidosis in single- or pauci-fibers recorded from the sinus nerve in isolated carotid bodies superfused with bicarbonate-buffer saline. Results suggest that an activation of the melatonin receptors expressed in the glomus cells of the rat carotid body reduces the chemoreceptor response to hypercapnic acidosis. This modulation may play a physiol. role in the influence of the circadian rhythms on the chemoreflex.
IT 93515-00-5, 2-Iodomelatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin attenuates rat carotid chemoreceptor response to hypercapnic acidosis)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 14 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:78471 HCAPLUS Full-text
DOCUMENT NUMBER: 140:264809
TITLE: Molecular pharmacology of the ovine melatonin receptor: comparison with recombinant human MT1 and MT2 receptors
AUTHOR(S): Mailliet, Francois; Audinot, Valerie; Malpaux, Benoit; Bonnaud, Anne; Delagrange, Philippe; Migaud, Martine;

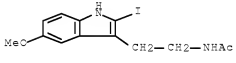
Barrett, Perry; Viaud-Massuard, Marie-Claude; Lesieur, Daniel; Lefoulon, Francois; Renard, Pierre; Boutin, Jean A.
CORPORATE SOURCE: Physiologie de la Reproduction et des Comportements, UMR INRA-CNRS-Universite de Tours, Nouzilly, 37380, Fr.
SOURCE: Biochemical Pharmacology (2004), 67(4), 667-677
CODEN: BCPCA6; ISSN: 0006-2952
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 30 Jan 2004
AB The variations of the pharmacol. properties of melatonin receptors between different mammalian species in transfected cell lines have been poorly investigated. In the present study, melatonin analogs have been used to characterize the pharmacol. of the recombinant ovine melatonin receptor (oMT1) expressed in CHO cell lines and the native oMT1 from the pars tuberalis (PT). Studies with selective ligands on native and transfected oMT1 showed similar properties for binding affinities [r2(PT/CHO) = 0.85]. The affinities and the functional activities of these ligands were compared with the human receptors (hMT1 or hMT2) expressed in CHO cells as well. The oMT1 and hMT1 receptors had similar pharmacol. profiles (r2=0.82). Nevertheless, some of the selective compds. at the human receptor presented a reduced affinity at the ovine receptor. Furthermore, some compds. showed marked different functional activities at oMT1 vs. hMT1 receptors. Our findings demonstrated differences in the pharmacol. properties of melatonin receptors in ovine and human species.
IT 93515-00-5, 2-Iodo-melatonin
RL: BSU (Biological study, unclassified); PKT (Pharmacokinetics); BIOL (Biological study)
(receptor ligand; mol. pharmacol. of ovine melatonin receptor in comparison with recombinant human MT1 and MT2 receptors)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 51 THERE ARE 51 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 15 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:30405 HCAPLUS Full-text
DOCUMENT NUMBER: 140:335904
TITLE: Characterization of melatonin binding sites in the brain and retina of the frog Rana perezi
AUTHOR(S): Isorna, Esther; Guijarro, Ana; Jesus Delgado, Maria; Alonso-Bedate, Mercedes; Alonso-Gomez, Angel L.
CORPORATE SOURCE: Facultad de Biologia, Departamento de Fisiologia (Fisiologia Animal II), Universidad Complutense de Madrid, Madrid, 28040, Spain
SOURCE: General and Comparative Endocrinology (2004), 135(3), 259-267

CODEN: GCENA5; ISSN: 0016-6480
PUBLISHER: Elsevier Science
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 14 Jan 2004
AB The aim of this study was to characterize 2-[125I]iodo-melatonin binding sites in the neural retina and central nervous system (telencephalon, diencephalon, and optic tectum) of the anuran amphibian Rana perezi. Saturation and kinetic studies and pharmacol. characterization revealed the existence of a unique melatonin-binding site that belongs to the Mel 1 receptor subtype. The affinity of this site is similar in all tissues studied (Kd, 10.5-12.8 pM), but the d. varied from diencephalon and optic tectum, which exhibit the highest d., to telencephalon with the lowest. Neural retina showed an intermediate receptor d. This melatonin-binding site fulfills the requirements of a real hormone receptor; the binding is saturable, reversible, and inhibited by different melatonin agonists and antagonists. The affinity order of ligands is: 2-phenyl-melatonin = 2-I-melatonin > 6-Cl-melatonin = melatonin » luzindole. Addnl., specific binding is decreased by non-hydrolysable GTP analog, sodium, and by pretreatment of membranes with pertussis toxin. All these results suggest the existence of a widely distributed and pharmacol. homogeneous melatonin receptor of the subfamily Mel 1 in the nervous system of Rana perezi coupled to a Gi/o protein.
IT 93515-00-5, 2-Iodo-melatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin analogs effects on iodomelatonin binding by receptors of brain and retina of frog Rana perezi)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 44 THERE ARE 44 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

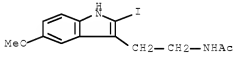
L43 ANSWER 16 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:876232 HCAPLUS Full-text
DOCUMENT NUMBER: 140:123023
TITLE: Melatonin prevents apoptosis and enhances HSP27 mRNA expression induced by heat shock in HL-60 cells: Possible involvement of the MT2 receptor
AUTHOR(S): Cabrera, Javier; Quintana, Jose; Reiter, Russel J.; Loro, Juan; Cabrera, Felix; Estevez, Francisco
CORPORATE SOURCE: Departamento de Ciencias Clinicas, Facultad de Ciencias de la Salud, Universidad de Las Palmas de Gran Canaria, Spain
SOURCE: Journal of Pineal Research (2003), 35(4), 231-238
CODEN: JPRSE9; ISSN: 0742-3098
PUBLISHER: Blackwell Publishing Ltd.
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 10 Nov 2003

AB Previous studies have reported that melatonin protects cells and tissues against stressful stimuli. In the present study using HL-60 cells, we show that cells acquire increased resistance to apoptosis normally induced by heat shock when they are incubated with melatonin. This effect of melatonin is saturable at nanomolar concns. and appears to be mediated by the MT2 subtype melatonin receptor. The high affinity melatonin receptor agonist, 2-iodomelatonin, reproduced the melatonin effect while it was fully blocked by the selective MT2 antagonist 4-phenyl-2- propionamidotetraline. The melatonin response to heat shock-induced apoptosis was pertussis toxin sensitive and, interestingly, the non-selective MT1/MT2 melatonin receptor ligand luzindole was found to display agonistic activity. Furthermore, we provide evidence that melatonin enhanced HSP27 mRNA expression as a result of heat shock - HSP27, is known to play an important role in the defense of cells against apoptosis induced by stressful agents. Together, these results demonstrate that melatonin, likely via receptor mechanisms, interferes with the apoptotic pathway activated by heat shock.

IT 93515-00-5, 2-Iodomelatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin prevents apoptosis and enhances HSP27 mRNA expression induced by heat shock in HL-60 cells with the possible involvement of MT2 receptor)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 43 THERE ARE 43 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 17 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:867631 HCAPLUS Full-text

DOCUMENT NUMBER: 140:247229

TITLE: Replacement of the α5 helix of Gα16 with Gαs-specific sequences enhances promiscuity of Gα16 toward Gs-coupled receptors

AUTHOR(S): Hazari, Anjali; Lowes, Vicki; Chan, Jasmine H. P.; Wong, Cecilia S. S.; Ho, Maurice K. C.; Wong, Yung H.

CORPORATE SOURCE: Molecular Neuroscience Center, Biotechnology Research Institute, Department of Biochemistry, Hong Kong University of Science and Technology, Hong Kong, Peop. Rep. China

SOURCE: Cellular Signalling (2003), Volume Date 2004, 16(1), 51-62
CODEN: CESIEY; ISSN: 0898-6568

PUBLISHER: Elsevier Science B.V.

DOCUMENT TYPE: Journal

LANGUAGE: English

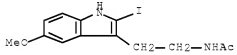
ED Entered STN: 06 Nov 2003

AB Gi6 can couple indiscriminately to a large number of G protein-coupled receptors (GPCRs), making it a prime candidate as a universal adaptor for GPCRs. In order to increase the promiscuity of Gα16, three chimeras incorporating increasing lengths of Gs-specific residues (25, 44 or 81

residues) into the C-terminus of Gα16 were constructed and named 16s25, 16s44 and 16s81, resp. The chimeras were examined for their ability to mediate receptor-induced stimulation of phospholipase C (PLC) and Ca2+ mobilization. 16s25 was more effective than 16s44 and 16s81 at coupling to Gs-linked receptors. 16s25 coupled productively to 10 different Gs-coupled receptors examined and, for 50% of these receptors, 16s25-mediated PLC activities were higher than those mediated via Gα16. Similar results were observed for agonist-induced Ca2+ mobilizations. These results show that incorporating the α5 helix of Gαs into Gα16 can increase the promiscuity of 16s25 towards Gs-coupled receptors.

IT 93515-00-5, 2-Iodomelatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(activation of receptor coupled to Gα16 chimeras; replacement of α5 helix of Gα16 with Gαs-specific sequences enhances promiscuity of Gα16 toward Gs-coupled receptors)

RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 40 THERE ARE 40 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

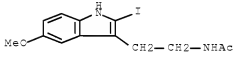
L43 ANSWER 18 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2003:810837 HCAPLUS Full-text
DOCUMENT NUMBER: 140:53776
TITLE: Melatonin receptor signaling in pregnant and nonpregnant rat uterine myocytes as probed by large conductance Ca2+-activated K+ channel activity
AUTHOR(S): Steffens, Frank; Zhou, Xiao-Bo; Sausbier, Ulrike; Sailer, Claudia; Motejlek, Karin; Ruth, Peter; Olcese, James; Korth, Michael; Wieland, Thomas
CORPORATE SOURCE: Institut fuer Pharmakologie fuer Pharmazeuten, Pharmakologie und Toxikologie, Universitaet Tuebingen, Tuebingen, D-72076, Germany
SOURCE: Molecular Endocrinology (2003), 17(10), 2103-2115
CODEN: MOENEN; ISSN: 0888-8809
PUBLISHER: Endocrine Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 16 Oct 2003
AB The mRNAs of MT1 and MT2 melatonin receptors are present in cells from nonpregnant (NPM) and pregnant (PM) rat myometrium. To investigate the coupling of melatonin receptors to Gq- and Gi-type of heterotrimeric G proteins, the authors analyzed the activity of large-conductance Ca2+-activated K+ (BKCa) channels, the expression of which in the uterus is confined to smooth muscle cells. The melatonin receptor agonist 2-iodo-melatonin induced a pertussis toxin (PTX)-insensitive increase in channel open probability that was blocked by the nonselective antagonist luzindole. The 2-iodo-melatonin effect on channel open probability was suppressed by overexpression of the Gqα-inactivating protein RGS16 and the phospholipase C

inhibitor U-73122. The activity of BKCa channels is differentially regulated by protein kinase A (PKA) in NPM and PM cells. Thus, the β-adrenoceptor agonist isoprenaline inhibited the BKCa channel conducted whole-cell outward current (Iout) in NPM cells and enhanced Iout in PM cells. Addnl. application of 2-iodo-melatonin antagonized the isoprenaline effect on Iout in NPM cells but enhanced Iout in PM cells. All 2-iodo-melatonin effects on Iout were sensitive to PTX treatment and the PKA inhibitor H-89. The authors therefore conclude that melatonin activates both the PTX-insensitive Gq/phospholipase C/Ca2+ and the PTX-sensitive Gi/cAMP/PKA signaling pathway in rat myometrium.

IT 93515-00-5, 2-IodoMelatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin agonist effects on calcium-activated potassium channel activity in pregnant and nonpregnant rat uterine myocytes)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 56 THERE ARE 56 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 19 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2003:760902 HCAPLUS Full-text

DOCUMENT NUMBER: 139:289243

TITLE: Melatonin modulates secretion of growth hormone and prolactin by trout pituitary glands and cells in culture

AUTHOR(S): Falcon, J.; Besseau, L.; Fazzari, D.; Attia, J.; Gaildrat, P.; Beauchaud, M.; Boeuf, G.

CORPORATE SOURCE: Laboratoire Arago, Unite Mixte de Recherche 7628, Centre National de la Recherche Scientifique / Universite P et M Curie, Banyuls sur Mer, F-66651, Fr.

SOURCE: Endocrinology (2003), 144(10), 4648-4658
CODEN: ENDOAO; ISSN: 0013-7227

PUBLISHER: Endocrine Society

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 29 Sep 2003

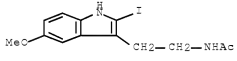
AB In Teleost fish, development, growth, and reproduction are influenced by the daily and seasonal variations of photoperiod and temperature Early in vivo studies indicated the pineal gland mediates the effects of these external factors, most probably through the rhythmic production of melatonin. The present investigation was aimed at determining whether melatonin acts directly on the pituitary to control GH and prolactin (PRL) secretion in rainbow trout. The authors show that 2-[125I]-iodomelatonin, a melatonin analog, binds selectively to membrane prepns. and tissue sections from trout pituitaries. The affinity was within the range of that found for the binding to brain microsomal prepns., but the number of binding sites was 20-fold less than in the brain. In culture, melatonin inhibited pituitary cAMP accumulation induced by forskolin, the adenyl cyclase stimulator. Forskolin also induced an increase in GH release, which was reduced in the presence of picomolar concns. of melatonin. At higher concns., the effects of melatonin became stimulatory.

In the absence of forskolin, melatonin induced a dose-dependent increase in GH release, and a dose-dependent decrease in PRL release. Melatonin effects were abolished upon addition of luzindole, a melatonin antagonist. The authors' results provide the first evidence that melatonin modulates GH and PRL secretion in Teleost fish pituitary. Melatonin effects on GH have never been reported in any vertebrate before. The effects result from a direct action of melatonin on pituitary cells. The complexity of the observed responses suggests several types of melatonin receptors might be involved.

IT 93515-00-5, 2-Iodomelatonin
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin modulates secretion of growth hormone and prolactin by trout pituitary glands and cells in culture)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 52 THERE ARE 52 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 20 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:	2003:759960 HCAPLUS Full-text
DOCUMENT NUMBER:	140:139285
TITLE:	The hypnotic and analgesic effects of 2-bromomelatonin
AUTHOR(S):	Naguib, Mohamed; Baker, Max T.; Spadoni, Gilberto; Gregerson, Marc
CORPORATE SOURCE:	Department of Anesthesia, University of Iowa College of Medicine, Iowa City, IA, USA
SOURCE:	Anesthesia & Analgesia (Hagerstown, MD, United States) (2003), 97(3), 763-768 CODEN: AACRAT; ISSN: 0003-2999
PUBLISHER:	Lippincott Williams & Wilkins
DOCUMENT TYPE:	Journal
LANGUAGE:	English
ED	Entered STN: 29 Sep 2003

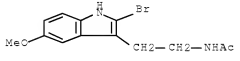
AB 2-Bromomelatonin is an analog of melatonin with a higher melatonin receptor affinity. We tested the hypnotic and analgesic properties of 2-bromomelatonin and compared them with those of propofol. Sprague Dawley rats were assigned to receive 2 bromomelatonin or propofol IV, or morphine i.p. Righting reflex and response to tail clamping were assessed. Both 2-bromomelatonin and propofol caused a dose dependent increase in the percent of rats displaying loss of both the righting reflex and the response to tail clamping. 2-Bromomelatonin was comparable to propofol in terms of its rapid onset and short duration of hypnosis. The 50% ED (95% confidence interval) for loss of righting reflex for propofol and 2-bromomelatonin were 3.7 (3.4-4.0) and 38 (35-41) mg/kg, resp. Corresponding values for loss of response to tail clamp were 2.9 (3.5-4.0) and 21 (15-30) mg/kg, resp. 2-Bromomelatonin is approx. 6-10 times less potent than propofol depending on the end-point used. I.p. 30 mg/kg morphine did not affect the righting reflex, but resulted in loss of response to tail clamping in all animals. 2-Bromomelatonin can exert hypnotic and antinocifensive effects similar to that observed with propofol. Unlike propofol, the reduced nocifensive behavior persisted after the animals had regained their righting reflex. This study provides evidence that 2-

bromomelatonin has properties that are desirable in anesthetics or anesthetic adjuvants appreciate.

IT 142959-59-9
RL: PAC (Pharmacological activity); BIOL (Biological study)
(hypnotic and analgesic effects of 2-bromomelatonin)

RN 142959-59-9 HCAPLUS

CN Acetamide, N-[2-(2-bromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



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L43 ANSWER 80 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:808010 HCAPLUS Full-text

DOCUMENT NUMBER: 128:123988

ORIGINAL REFERENCE NO.: 128:24183a,24186a

TITLE: Characterization of a melatonin binding site in Siberian hamster brown adipose tissue

AUTHOR(S): Le Gouic, Sabine; Atgie, Claude; Viguerie-Bascands, Nathalie; Hanoun, Naima; Larrouy, Dominique; Ambid, Louis; Raimbault, Serge; Ricquier, Daniel; Delagrange, Philippe; Guardiola-Lemaitre, Beatrice; Penicaud, Luc; Casteilla, Louis

CORPORATE SOURCE: IFR Louis Bugnard, UPS, Toulouse, CNRS UPRESA 5018, Fr.

SOURCE: European Journal of Pharmacology (1997), 339(2/3), 271-278
CODEN: EJPHAZ; ISSN: 0014-2999

PUBLISHER: Elsevier Science B.V.

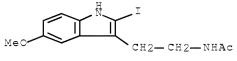
DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 31 Dec 1997

AB Melatonin has been shown, in various rodent species, to mediate photoperiodic effects on body weight and, consequently, fat mass. Pharmacol. investigations indicated that the brown adipose tissue of Siberian hamsters possesses a melatonin binding site with a dissociation constant of 570±300 pM and a d. of 3.2±1.8 fmol/mg protein. This binding site can also be detected on mature brown adipocyte membranes. The rank order of potency of a variety of drugs to displace 2-[125I]iodomelatonin from binding sites on Siberian hamster brown adipose tissue was as follows: 2-iodomelatonin > melatonin = prazosin > GR135531 (5-methoxycarbonylamino- N-acetyltryptamine) > N-acetylserotonin > 6-chloromelatonin > S20304 (N-(2-(1-naphthyl)ethyl)cyclobutanecarboxamide) » methoxamine, phenylephrine, serotonin. Mella mRNA was not detected by RT-PCR (reverse transcription-polymerase chain reaction) in brown adipose tissue. Melatonin had no effect on either basal or stimulated lipolysis. Moreover, melatonin did not modify intracellular cAMP accumulation or inositol phosphate content. Together, these results suggest that the melatonin binding site characterized in brown adipose tissue is clearly different from the Mel1 cloned subtype and has some features different from those of the Mel2 subtype.

IT 93515-80-5, 2-Iodomelatonin
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(pharmacol. characterization of a melatonin binding site in Siberian hamster brown adipose tissue)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

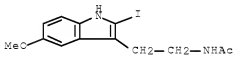
L43 ANSWER 81 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:801206 HCAPLUS Full-text
DOCUMENT NUMBER: 128:97949
ORIGINAL REFERENCE NO.: 128:19044h,19045a
TITLE: Studies on the vasoconstrictor action of melatonin and putative melatonin receptor ligands in the tail artery of juvenile Wistar rats
AUTHOR(S): Ting, K. N.; Dunn, W. R.; Davies, D. J.; Sugden, D.; Delagrange, P.; Guardiola-Lemaitre, B.; Scalbert, E.; Wilson, V. G.
CORPORATE SOURCE: Department of Physiology and Pharmacology, Queen's Medical Centre, The Medical School, Nottingham, NG7 2UH, UK
SOURCE: British Journal of Pharmacology (1997), 122(7), 1299-1306
CODEN: BJPCBM; ISSN: 0007-1188
PUBLISHER: Stockton Press
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 24 Dec 1997
AB In this study the authors compared the vasoconstrictor activity of melatonin in rat isolated tail artery using two different recording systems, the Halpern pressure myograph and the Halpern-Mulvany wire myograph, with the view to determining a reliable method for obtaining pharmacol. data on vascular melatonin receptors. In addition, the authors characterized the melatonin receptor in this preparation, using analogs of melatonin, and examined the activity of various naphthalenic derivs. with biol. activity in non-vascular models of melatonin receptors. Using the Halpern pressure myograph, cumulative addition of melatonin (0.1 nM to 1 μM) produced direct vasoconstriction (19.3% reduction in lumen diameter) in five of 11 pressurized segments, with pEC50 of 9.14. Similarly, non-cumulative application of melatonin caused vasoconstriction (19.7% reduction in lumen diameter) in seven of 20 prepns. examined with pEC50 of 8.74. The selective alpha2-adrenoceptor agonist, UK-14304 (5-bromo-6-[2- imidazolin-2-ylamino]-quinoxaline bitartrate), produced vasoconstriction in all "melatonin-insensitive" prepns. Melatonin (0.1 nM to 1 μM) failed to elicit isometric contractions of tail artery segments in the Halpern wire myograph, but produced concentration-dependent potentiation of elec.-evoked, isometric contractions (maximum effect

of 150-200% enhancement) when applied either non-cumulatively (seven of seven prepns.) or cumulatively (four of seven prepns.). The pEC50 value of melatonin (non-cumulative) was 8.50 which was not different from that obtained in the pressure myograph. All further expts. were conducted using a non-cumulative protocol against elec.-evoked, isometric contractions. Based on the pEC50 values for the melatonin analogs examined, the pharmacol. profile for the enhancement of elec.-evoked contractions was 2-iodomelatonin >6-chloromelatonin ≥ (-)-AMMTC ≥ S21634 ≥ melatonin ≥ S20098 > S20242 ≥ S20304 >6- hydroxymelatonin > S20932 > (+)-AMMTC > N-acetyl-5-HT. The authors' data suggests the vascular receptor belongs to the MEL1-like subtype. All the indole-based analogs of melatonin, 2-iodomelatonin, (-)-AMMTC, (+)-AMMTC, S20932, 6-chloromelatonin, 6-hydroxymelatonin and N-acetyl-5-HT, behaved as full agonists. All the naphthalenic derivs. examined, S21634, S20098, S20242 and S20304 behaved as partial agonists relative to melatonin. The naphthalenic-based antagonists, S20928 and S20929, did not modify elec.-evoked, isometric contractions of the tail artery, but produced a parallel, rightward displacement of the melatonin concentration-response curve. Based upon the effect of 1 μM S20928 and S20929, the estimated pKB values for these antagonists were 7.18 and 7.17, resp. The authors demonstrated that enhancement of elec.-evoked, isometric contractions of the rat isolated tail artery (using the Halpern-Mulvany wire myograph) is a simple and reproducible model for assessing the activity of putative agonists, partial agonists and antagonists at vascular melatonin receptors. Pharmacol. characterization of the receptor suggests the presence of a MEL1-like subtype.

IT 93515-00-5, 2-Iodomelatonin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(vasoconstrictor action of melatonin and putative melatonin receptor ligands in tail artery of juvenile Wistar rats)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

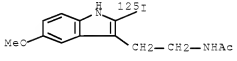


REFERENCE COUNT: 38 THERE ARE 38 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 82 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:	1997:738016 HCAPLUS Full-text
DOCUMENT NUMBER:	128:70731
ORIGINAL REFERENCE NO.:	128:13683a,13686a
TITLE:	Differential inhibitory effects of melatonin analogs and three naphthalenic ligands on 2-[125I]iodomelatonin binding to chicken tissues
AUTHOR(S):	Pang, Celia S.; Tang, Pak L.; Song, Yong; Pang, Shiu F.; Ng, Kai W.; Guardiola-Lemaitre, Beatrice; Delagrange, Philippe; Brown, Gregory M.
CORPORATE SOURCE:	Clarke Institute of Psychiatry, Toronto, ON, Can.
SOURCE:	Journal of Pineal Research (1997), 23(3), 148-155 CODEN: JPRSE9; ISSN: 0742-3098
PUBLISHER:	Munksgaard International Publishers Ltd.

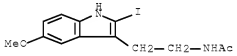
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 24 Nov 1997
AB We have compared the 50% inhibition values of 2-[125I]iodomelatonin ([125I]Mel) competition curves by melatonin and 3 naphthalenic ligands, N-[2-(7-methoxy-1-naphthyl) ethyl] cyclobutane carboxamide (S20642), N-Pr N-[2-(7-methoxy-1-naphthyl) ethyl] urea (S20753), and N-[2-(7-methoxy-1- naphthyl) ethyl] crotonamide (S20750), using membrane prepns. of four tissues (lung, spleen, brain, and kidney) of the chicken simultaneously. In retired breeders, we have demonstrated that the affinities of S20642 were similar in the lung and spleen. However they were 2-fold lower in the brain and 80-fold lower in the kidney. Similar differential binding affinities to the melatonin receptors were observed in the four tissues of young male chicks. This suggests that age and sex have little influence on the differential inhibitory properties of melatonin and S20642 in the tissues studied. The addition of guanosine 5'-O-thiotriphosphate (GTPγS), which encouraged the uncoupling of melatonin receptor to the G protein complex, lowered the binding affinity of melatonin and S20642 in the tissues studied but their differential affinities in the four tissues were however maintained. The affinities of 5-methoxy-N-cyclopropanoyltryptamine (CPMT) in the kidney were also 5-10-fold lower than those in the lung, spleen, and brain of young male chicks. The distinctive differential affinities of melatonin, S20642, and CPMT for [125I]Mel binding sites in the chicken lung, spleen, brain, and kidney indicated that the binding sites in these tissues are heterogeneous. Our study implicated that the naphthalenic ligand S20642 may be a useful melatonin analog to distinguish melatonin receptor subtypes in tissues and a possible drug candidate worthwhile for further investigations.
IT 140671-15-4
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(differential inhibitory effects of melatonin analogs and naphthalenic ligands on 2-[125I]iodomelatonin binding to chicken tissues)
RN 140671-15-4 HCAPLUS
CN Acetamide, N-[2-[2-(iodo-125I)-5-methoxy-1H-indol-3-yl]ethyl]- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 36 THERE ARE 36 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 83 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:573657 HCAPLUS Full-text
DOCUMENT NUMBER: 127:257849
ORIGINAL REFERENCE NO.: 127:50257a,50260a
TITLE: Melatonin rescues dopamine neurons from cell death in tissue culture models of oxidative stress
AUTHOR(S): Iacovitti, Lorraine; Stull, Natalie D.; Johnston, Kelly
CORPORATE SOURCE: Department of Neurobiology and Anatomy, Allegheny University of the Health Sciences, Philadelphia, PA, USA

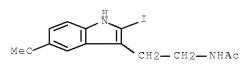
SOURCE: Brain Research (1997), 768(1,2), 317-326
CODEN: BRREAP; ISSN: 0006-8993
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 08 Sep 1997
AB Dopamine (DA) neurons are uniquely vulnerable to damage and disease. Their loss in humans is associated with diseases of the aged, most notably, Parkinson's Disease (PD). There is now a great deal of evidence to suggest that the destruction of DA neurons in PD involves the accumulation of harmful oxygen free radicals. Since the antioxidant hormone, melatonin, is one of the most potent endogenous scavengers of these toxic radicals, the authors tested its ability to rescue DA neurons from damage/death in several laboratory models associated with oxidative stress. In the first model, cells were grown in low d. on serum-free media. Under these conditions, nearly all cells died, presumably due to the lack of essential growth factors. Treatment with 250 μM melatonin rescued nearly all dying cells (100% tau+ neurons), including tyrosine hydroxylase immunopos. DA neurons, for at least 7 days following growth factor deprivation. This effect was dose and time dependent and was mimicked by other antioxidants such as 2-iodomelatonin and vitamin E. Similarly, in the second model of oxidative stress, 250 M melatonin produced a near total recovery from the usual 50% loss of DA neurons caused by neurotoxic injury from 2.5 M 1-methyl-4-phenylpyridine (MPP+). These results indicate that melatonin possesses the remarkable ability to rescue DA neurons from cell death in several exptl. paradigms associated with oxidative stress.
IT 93515-00-5, 2-Iodomelatonin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin rescues dopamine neurons from cell death in tissue culture models of oxidative stress)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 49 THERE ARE 49 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

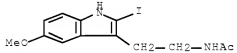
L43 ANSWER 84 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:572974 HCAPLUS Full-text
DOCUMENT NUMBER: 127:243458
ORIGINAL REFERENCE NO.: 127:47391a,47394a
TITLE: Investigation into the contractile response of melatonin in the guinea pig isolated proximal colon: the role of 5-HT4 and melatonin receptors
AUTHOR(S): Lucchelli, A.; Santagostino-Barbone, M. G.; Tonini, M.
CORPORATE SOURCE: Institute of Pharmacology, School of Pharmacy, University of Pavia, Pavia, I-27100, Italy
SOURCE: British Journal of Pharmacology (1997), 121(8), 1775-1781
CODEN: BJPCBM; ISSN: 0007-1188
PUBLISHER: Stockton

DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 08 Sep 1997
AB The interaction of melatonin (N-acetyl-5-methoxytryptamine) with 5-hydroxytryptamine4 (5-HT4) receptors and/or with melatonin receptors (ML1, ML2 sites) has been assessed in isolated strips of the guinea-pig proximal colon. In the same preparation, the pharmacol. profile of a series of melatonin agonists (2-iodomelatonin, 6-chloromelatonin, N-acetyl-5-hydroxytryptamine (N-acetyl-5-HT), 5-methoxycarbonylamino-N- acetyltryptamine (5-MCA-NAT)) was investigated. In the presence of 5-HT1/2/3 receptor blockade with methysergide (1 μM) and ondansetron (10 μM), melatonin (0.1 nM-10 μM), 5-HT (1 nM-1 μM) and the 5-HT4 receptor agonist, 5-methoxytryptamine (5-MeOT: 1 nM - 1 μM) caused concentration-dependent contractile responses. 5-HT and 5-MeOT acted as full agonists with a potency (-log EC50) of 7.8 and 8.0, resp. The potency value for melatonin was 8.7, but its maximum effect was only 58% of that elicited by 5-HT. Melatonin responses were resistant to atropine (0.1 μM), tetrodotoxin (0.3 μM), and to blockade of 5-HT4 receptors by SDZ 205,557 (0.3 μM) and GR 125487 (3, 30 and 300 nM). The latter antagonist (3 nM) inhibited 5-HT-induced contractions with an apparent pA2 value of 9.6. GR 125487 antagonism was associated with 30% reduction of the 5-HT response maximum Contractions elicited by 5-HT were not modified when melatonin (1 and 10 nM) was used as an antagonist. Like melatonin, the four melatonin analogs concentration-dependently contracted colonic strips. The rank order of agonist potency was: 2-iodomelatonin (10.8) >6-chloromelatonin (9.9) ≥ N-acetyl-5-HT (9.8) ≥ 5-MCA-NAT (9.6) > melatonin (8.7), an order typical for ML2 sites. In comparison with the other agonists, 5-MCA-NAT had the highest intrinsic activity. The melatonin MLIB receptor antagonist luzindole (0.3, 1 and 3 μM) had no effect on the concentration-response curve to melatonin. Prazosin, an α-adrenoceptor antagonist possessing moderate/high affinity for melatonin ML2 sites did not affect melatonin-induced contractions at 0.1 μM. Higher prazosin concns. (3 and 1 μM) caused a non-concentration-dependent depression of the maximal response to melatonin without changing its potency. Prazosin (0.1 and 1 μM) showed a similar depressant behavior towards the contractile responses to 5-MCA-NAT. In the guinea-pig proximal colon, melatonin despite some structural similarity with the 5-HT4 receptor agonist 5-MeOT, does not interact with 5-HT4 receptors (or with 5-HT1/2/3 receptors). As indicated by the rank order of agonist potencies and by the inefficacy of luzindole, the most likely sites of action of melatonin are postjunctional ML2 receptors. However, this assumption could not be corroborated with the use of prazosin as this ML2 receptor antagonist showed only a non-concentration-dependent depression of the maximal contractile response to both melatonin and 5-MCA-NAT. Further investigation with the use of truly selective antagonists at melatonin ML2 receptors is required to clarify this issue.
IT 93515-00-5, 2-Iodomelatonin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(serotonin and melatonin receptors role in melatonin-induced contraction in guinea pig isolated proximal colon)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

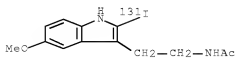


REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

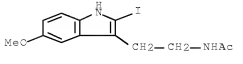
L43 ANSWER 85 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:507924 HCAPLUS Full-text
DOCUMENT NUMBER: 127:190580
ORIGINAL REFERENCE NO.: 127:36961a,36964a
TITLE: Synthesis of iodine 131 derivatives of indolealkylamines for brain mapping
AUTHOR(S): Sintas, Jose A.; Vitale, Arturo A.
CORPORATE SOURCE: Departamento de Quimica Organica, Faculted de Ciencias Exactas y Naturales, PROPLAME-CONICET, Universidad de Buenos Aires, Buenos Aires, 1428, Argent.
SOURCE: Journal of Labelled Compounds & Radiopharmaceuticals (1997), 39(8), 677-684
CODEN: JLCRD4; ISSN: 0362-4803
PUBLISHER: Wiley
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 11 Aug 1997
AB The synthesis and spectral properties of new radioiodinated indolealkylamines like 2-[131I]-iodo-N,N-dimethyltryptamine, 2-[131I]-iodo-N-methyltryptamine, 2-[131I]-iodo-5-methoxy-N,N- dimethyltryptamine, 2-[131I]-iodo-5-hydroxy-N,N-dimethyltryptamine (2-[131I]-iodobufotenine), and 2-[131I]-iodotryptamine and the known 2-[131I]-iodo-N-acetyl-5-methoxytryptamine (2-[131I]-iodomelatonin) are described. The radioiodinated compds. were synthesized via a high-yield novel method, and their spectral properties are fully described. These compds. are of biol. importance and can be used for brain mapping with SPECT technol.
IT 93515-00-5P 194292-64-3P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of 131I derivs. of indolealkylamines for brain mapping)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



RN 194292-64-3 HCAPLUS
CN Acetamide, N-[2-[2-(iodo-131I)-5-methoxy-1H-indol-3-yl]ethyl]- (9CI) (CA INDEX NAME)

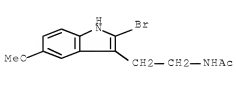


L43 ANSWER 86 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:441847 HCAPLUS Full-text
DOCUMENT NUMBER: 127:158889
ORIGINAL REFERENCE NO.: 127:30711a,30714a
TITLE: Calcium ion dependency and the role of inositol phosphates in melatonin-induced encystment of dinoflagellates
AUTHOR(S): Tsim, Siu-Tai; Wong, Joseph T. Y.; Wong, Yung H.
CORPORATE SOURCE: Department of Biology, Hong Kong University of Science and Technology, Kowloon, Hong Kong
SOURCE: Journal of Cell Science (1997), 110(12), 1387-1393
CODEN: JNCSAI; ISSN: 0021-9533
PUBLISHER: Company of Biologists
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 16 Jul 1997
AB The unicellular eukaryotic dinoflagellates shed their flagella and form a new pellicle cyst wall in response to environmental stress. This encystment process can also be induced by indoleamines such as melatonin and 5-methoxytryptamine. To decipher the complex signaling events which lead to encystment, we have investigated the functional roles of Ca2+ and inositol phosphates in indoleamine-induced encystment of the dinoflagellates Alexandrium catenella and Crypthecodinium cohnii. Pretreatment with EGTA, but not with EDTA, effectively blocked the indoleamine-induced encystment of A. catenella in a dose-dependent manner. Conversely, agents that facilitate the influx of Ca2+ (Bay K 8644, A23187 and ionomycin) dose-dependent induced encystment of A. catenella. Endoplasmic Ca2+-ATPase inhibitors such as thapsigargin and the peptide toxin melittin also induced encystment of A. catenella. These results suggest that an elevation of intracellular [Ca2+] may be involved in the encystment response. In terms of the regulation of phospholipase C, melatonin dose- and time-dependently stimulated the formation of inositol phosphates in C. cohnii. The rank order of potency for several indoleamines to stimulate inositol phosphates formation was 2-iodomelatonin > 5-methoxytryptamine ≥ melatonin » N-acetylserotonin > 5-hydroxytryptamine. This rank order was the same as for the indoleamine-induced encystment of C. cohnii as previously reported. Our results indicate that indoleamine-induced activation of phospholipase C and elevation of intracellular [Ca2+] may be proximal steps in the signal transduction pathway leading to encystment in dinoflagellates. Moreover, this is the first demonstration of the possible involvement of Ca2+ and inositol phosphates as second messengers in dinoflagellates.
IT 93515-00-5, 2-Iodomelatonin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(Ca2+ dependency and the role of inositol phosphates in indoleamine-induced encystment of dinoflagellates)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 47 THERE ARE 47 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

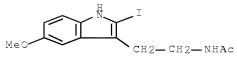
L43 ANSWER 87 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:397186 HCAPLUS Full-text
DOCUMENT NUMBER: 127:12976
ORIGINAL REFERENCE NO.: 127:2495a,2498a
TITLE: 1-(2-Alkanamidoethyl)-6-methoxyindole Derivatives: A New Class of Potent Indole Melatonin Analogs
AUTHOR(S): Tarzia, Giorgio; Diamantini, Giuseppe; Di Giacomo, Barbara; Spadoni, Gilberto; Esposti, Daniele; Nonno, Romolo; Lucini, Valeria; Pannacci, Marilou; Fraschini, Franco; Stankov, Bojidar Michaylov
CORPORATE SOURCE: Istituto di Chimica Farmaceutica e Tossicologica, Universita degli Studi di Urbino, Urbino, I-61029, Italy
SOURCE: Journal of Medicinal Chemistry (1997), 40(13), 2003-2010
CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER: American Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 27 Jun 1997
AB A new series of indole melatonin analogs, bearing the amido Et side chain attached at the N-1 position of the indole nucleus, were prepared and tested for their affinity for the melatonin receptor isolated from quail optic tecta in a series of in vitro ligand-binding expts. using 2-[125I]iodomelatonin as the labeled ligand. The biol. activity was evaluated using 2 models: effects on the forskolin-stimulated cAMP accumulation in explants from quail optic tecta and evaluation of the GTPγS index derived from competition expts. performed in the absence or presence of GTPγS. Compds. obtained by shifting the methoxy group and the ethylamido side chain from the C-5 and C-3 positions of melatonin to the C-6 and N-1 positions of the indole nucleus, showed an affinity similar to that of melatonin itself, as well as full agonist activity. Optimization of the C-2 substituent by introducing Br, Ph, or COOCH3 resulted in a significantly enhanced affinity (in the picomolar range) and improved agonist biol. activity. Compds. lacking the methoxy group and bearing an N-alicyclic group behaved as partial agonists or antagonists.
IT 142959-59-9
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(preparation of alkanamidoethylmethoxyindole derivs. as melatonin analogs)
RN 142959-59-9 HCAPLUS
CN Acetamide, N-[2-(2-bromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



REFERENCE COUNT: 37 THERE ARE 37 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L43 ANSWER 88 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:275097 HCAPLUS Full-text
DOCUMENT NUMBER: 126:312055
ORIGINAL REFERENCE NO.: 126:60361a,60364a
TITLE: Melatonin agonists induce phosphoinositide hydrolysis in Xenopus laevis melanophores
AUTHOR(S): Mullins, U. Lena; Fernandes, Prabhavathi B.; Eison, Arlene S.
CORPORATE SOURCE: Central Nervous System Drug Discovery, Bristol-Myers Squibb Company, Wallingford, CT, 06492, USA
SOURCE: Cellular Signalling (1997), 9(2), 169-173
CODEN: CESIEY; ISSN: 0898-6568
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 30 Apr 1997
AB Melatonin, the principal hormone of the vertebrate pineal gland, has been implicated in a variety of neurobiol. processes such as circadian rhythmicity and reproductive function. One of the earliest described actions of melatonin was its ability to cause pigment translocation in the dermal melanophores of amphibians. Melatonin binding sites have been identified in the brain of many species and in pigmented tumor cell lines; however, the dermal melanophores of the frog Xenopus Laevis possess the highest known d. of melatonin binding sites. These cells are the source from which a melatonin receptor has been cloned and provide an excellent model to study melatonin-mediated signal transduction in an isolated cell system. In Xenopus melanophores, melatonin induces a rapid perinuclear aggregation of intracellular pigment which is associated with a pertussis toxin-sensitive inhibition of cAMP. We have previously demonstrated that a sub-type of melatonin binding sites found in selected regions of the pigeon brain and in Syrian Hamster RPMI 1846 melatonin cells are functionally coupled to phosphoinositide hydrolysis as a second messenger. Here we now present evidence to suggest that Xenopus Laevis melanophores also possess melatonin binding sites which are functionally linked to phosphoinositide hydrolysis. Melatonin agonists induced phosphoinositide hydrolysis in melanophores in a concentration-dependent manner with a rank order of potency of 2-iodomelatonin > 6-chloromelatonin > N-acetylserotonin > melatonin. Stimulatory response of 2-iodomelatonin was blocked by the melatonin antagonist N-acetyltryptamine and the alpha-adrenergic antagonist prazosin, which has been shown to have high affinity for melatonin binding sites. Phosphoinositide hydrolysis induced by melatonin agonists was not blocked by the serotonin antagonist ketanserin or by phentolamine, an alpha-adrenergic antagonist, indicating that the response observed was not due to stimulation of 5-HT2a/2c receptors or alpha-adrenergic receptors. Furthermore, incubation of melanophores with the non-hydrolyzable G-protein source GTP-gamma-S attenuated the phosphoinositide dose response induced by 2-iodomelatonin, and pre-incubation of the cells with pertussis toxin had no effect on 2-iodomelatonin-induced phosphoinositide hydrolysis. The present data suggest that Xenopus Laevis Melanophores possess G-protein linked pertussis toxin-insensitive melatonin binding sites which are functionally coupled to phosphoinositide hydrolysis as a signal transduction mechanism.
IT 93515-00-5, 2-Iodomelatonin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin agonists induce phosphoinositide hydrolysis in Xenopus laevis melanophores)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



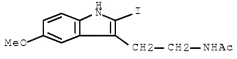
L43 ANSWER 89 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1997:220137 HCAPLUS Full-text
DOCUMENT NUMBER: 127:1057
ORIGINAL REFERENCE NO.: 127:251a,254a
TITLE: Melatonin receptor antagonists that differentiate between the human Mella and Mellb recombinant subtypes are used to assess the pharmacological profile of the rabbit retina ML1 presynaptic heteroreceptor
AUTHOR(S): Dubocovich, Margarita L.; Masana, Monica I.; Iacob, Stanca; Sauri, Daniel M.
CORPORATE SOURCE: Med. Sch., Northwestern University Chicago, Chicago, IL, 60611, USA
SOURCE: Naunyn-Schmiedeberg's Archives of Pharmacology (1997), 355(3), 365-375
CODEN: NSAPCC; ISSN: 0028-1298
PUBLISHER: Springer
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 04 Apr 1997
AB Subtype-selective agonists, partial agonists, and antagonists which distinguish the human recombinant Mella and Mellb melatonin receptors expressed in COS-7 cells were identified. Melatonin receptor agonists showed higher affinity for competition of 2-[125I]-iodomelatonin binding for the Mellb than the Mella melatonin receptor. The dissociation consts. (Ki) of 16 agonists determined on the recombinant human Mella and Mellb melatonin receptor subtypes showed a correlation. Six agonists showed 10-60-fold higher affinity for the Mellb melatonin receptor as indicated by the affinity selectivity ratios (Mella/Mellb). Dissociation consts. for competition of 11 partial agonists and antagonists for 2-[125I]-iodomelatonin binding were 15.5-362-fold higher for the Mellb than for the Mella melatonin receptor. The lack of correlation between the pKi values strongly suggest that the 2 human melatonin receptor subtypes can be distinguished pharmacol. The partial agonist 5-methoxyluzindole and the competitive melatonin receptor antagonists GR128107, 4-phenyl-2-chloroacetamidotetraline, 4-phenyl-2- acetamidotetraline, and 4-phenyl-2-propionamidotetraline are selective Mellb melatonin receptor analogs as their affinity selectivity ratios (Mella/Mellb) are >100. It is concluded that the 40% overall amino acid difference in the sequence of the human recombinant Mella and Mellb melatonin receptors is reflected in distinct pharmacol. profiles for the subtypes. The pharmacol. profile of the presynaptic ML1 melatonin heteroreceptor of rabbit retina mediating inhibition of the Ca-dependent release of dopamine was compared to that of the recombinant Mella and Mellb melatonin receptors. Melatonin inhibited [3H]dopamine release by 50% (IC50) at 20 pM with a maximal inhibitory effect (80%) at 1 nM. The partial agonists showed various degrees of efficacy while none of the competitive melatonin receptor antagonists did inhibit [3H]dopamine release on their own. The potency (IC50) of full melatonin receptor agonists correlated with their affinity to compete for 2-[125I]-iodomelatonin binding to either the Mella or Mellb human melatonin receptors. The apparent dissociation consts. (KB) for partial agonists and antagonists to antagonize the inhibition of [3H]dopamine release mediated by activation of the ML1 heteroreceptor by melatonin, correlated with the affinity consts. (Ki)

for 2-[125I]-iodomelatonin binding determined on the Mel1b but not the Mel1a subtype. These results demonstrate that the pharmacol. profile of the human recombinant Mel1b melatonin receptor is similar to that of the functional presynaptic melatonin heteroreceptor of rabbit retina, which is referred as an ML1 subtype. It is concluded that the selective Mel1b melatonin partial agonists and antagonists described here can be used to identify melatonin receptor subtypes in native tissues and to search for subtype selective analogs with therapeutic potential.

IT 93515-00-5, 2-Iodomelatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(pharmacol. profile of rabbit retina ML1 presynaptic heteroreceptor by melatonin receptor antagonists distinguishing human recombinant Mel1a and Mel1b subtypes)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 90 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:	1997:151416 HCAPLUS Full-text
DOCUMENT NUMBER:	126:180807
ORIGINAL REFERENCE NO.:	126:34733a,34736a
TITLE:	Three-Dimensional Quantitative Structure-Activity Relationship of Melatonin Receptor Ligands: A Comparative Molecular Field Analysis Study
AUTHOR(S):	Sicsic, Sames; Serraz, Isabelle; Andrieux, Jean; Bremont, Beatrice; Mathe-Allainmat, Monique; Poncet, Annie; Shen, Shuren; Langlois, Michel
CORPORATE SOURCE:	Biocis (CNRS ura 1843) Faculte de Pharmacie, Universite de Paris-Sud, Chatenay-Malabry, 92296, Fr.
SOURCE:	Journal of Medicinal Chemistry (1997), 40(5), 739-748 CODEN: JMCMAR; ISSN: 0022-2623
PUBLISHER:	American Chemical Society
DOCUMENT TYPE:	Journal
LANGUAGE:	English

ED Entered STN: 08 Mar 1997

AB A three-dimensional quant. structure-activity relation using the comparative mol. field anal. (CoMFA) paradigm applied to 57 melatonin receptor ligands belonging to diverse structural families was performed. The compds. studied which have been synthesized previously and reported to be active at chicken brain melatonin receptors were divided into a training set of 48 mols. and a test set of 9 mols. As most of these compds. have a highly flexible ethylamido side chain, the alignments were based on the most sterically constrained mol. which contains a tricyclic phenalene structure. This tricyclic compound can adopt an axial and an equatorial conformation. Two different mol. superpositions representing possible positioning within the receptor site have been suggested previously. CoMFA was tentatively used to discriminate between alternate hypothetical biol. active conformations and between possible positionings. The best 3D quant. structure-activity relation model found yields significant cross-validated, conventional, and predictive

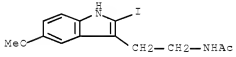
r2 values equal to 0.798, 0.967, and 0.76, resp., along with an average absolute error of prediction of 0.25 log units. These results suggest that the active conformation of the most flexible mols. including melatonin is in a folded form if the authors consider the spatial position of the ethylamido side chain relative to the aromatic ring.

IT 93515-00-5

RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(three-dimensional quant. structure-activity relationship of melatonin receptor ligands in comparative mol. field anal. study)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 91 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1997:141816 HCAPLUS Full-text

DOCUMENT NUMBER: 126:233879

ORIGINAL REFERENCE NO.: 126:45133a,45136a

TITLE: Melatonin and testicular function: characterization of binding sites for 2-[125I]-Iodomelatonin in immature rat testes

AUTHOR(S): Vera, H.; Tijmes, M.; Valladares, L. E.

CORPORATE SOURCE: Unidad de Biologia de la Reproduccion, Universidad de Chile, Santiago, Chile

SOURCE: Steroids (1997), 62(2), 226-229
CODEN: STEDAM; ISSN: 0039-128X

PUBLISHER: Elsevier

DOCUMENT TYPE: Journal

LANGUAGE: English

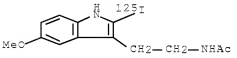
ED Entered STN: 05 Mar 1997

AB Melatonin-binding sites in membrane preparation of immature rat testes were demonstrated by utilizing 2-[125I]-iodomelatonin as a radioligand. Binding at these sites was found to be reversible, saturable, specific and of, high affinity. Scatchard anal. of the specific binding revealed an equilibrium binding constant (kd) of 215 pmol/L and a total number of binding sites (Bmax) of 0.94 fmol/mg protein. The Hill coefficient of 1.0 suggests a single class of 2-[125I]-iodomelatonin-binding site in the rat testes. The Kd value determined from kinetic anal. was 179 pmol/L, which is in close agreement with the value determined from equilibrium studies. In competition studies, the order of pharmacol. affinity for 2-[125I]-iodomelatonin binding sites in the rat membrane testes was: melatonin > 6-hydroxymelatonin > N-acetylserotonin > 5-hydroxyindole-3-acetic acid > 5-hydroxytryptamine > 5-hydroxy-L-tryptophan > tryptamine » 5-methoxytryptamine, 5-methoxy-DL-tryptophan, D-L-tryptophan. The 2-[125I]-iodomelatonin binding was markedly reduced by guanine nucleotides; treatment with nonhydrolyzable GTP analog guanosine 5'-O-(3-thiotriphosphate) caused a 10-fold decrease in receptor affinity. In this paper, the authors report evidence indicating the presence of binding sites in immature rat testes, suggesting a possible direct role of melatonin on testicular steroidogenesis.

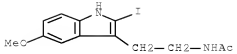
IT 148671-15-4

RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL

(Biological study); PROC (Process)
(characterization of binding sites for 2-[125I]-Iodomelatonin in immature rat testes)
RN 140671-15-4 HCAPLUS
CN Acetamide, N-[2-[2-(iodo-125I)-5-methoxy-1H-indol-3-yl]ethyl]- (9CI) (CA INDEX NAME)



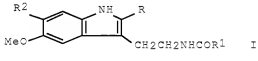
L43 ANSWER 92 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:610098 HCAPLUS Full-text
DOCUMENT NUMBER: 125:265768
ORIGINAL REFERENCE NO.: 125:49337a,49340a
TITLE: PK 11195 blockade of benzodiazepine-induced inhibition of forskolin-stimulated adenylate cyclase activity in the striatum
AUTHOR(S): Tenn, Catherine C.; Neu, John M.; Niles, Lennard P.
CORPORATE SOURCE: Dep. Biomed. Sci., McMaster Univ., Hamilton, ON, L8N 3Z5, Can.
SOURCE: British Journal of Pharmacology (1996), 119(2), 223-228
CODEN: BJPCBM; ISSN: 0007-1188
PUBLISHER: Stockton
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 14 Oct 1996
AB The effects of benzodiazepine receptor antagonists on the inhibition of forskolin-stimulated adenylate cyclase (AC) activity by various benzodiazepine (BZ) and indoleamine agonists in the rat striatum were investigated. A biphasic inhibition of forskolin-stimulated AC activity by the peripheral-type agonist, Ro5-4864, and a multiphasic inhibition by the non-selective BZ, diazepam, was observed One phase of AC inhibition is consistent with a Gi-coupled receptor-mediated action, whereas the other phases appear to involve a direct effect on the enzyme itself. While the central-type antagonist, flumazenil, had no effect on the ability of Ro5-4864 to inhibit AC activity, the peripheral-type receptor ligand, PK 11195, abolished the first phase of inhibition. PK 11195 and pertussis toxin were found to block the inhibitory effect of various BZs and the indoleamines, melatonin and 2-iodomelatonin, on induced AC activity. Saturation binding studies, conducted at 30°C with [3H]-diazepam revealed a single binding site in the rat striatum (KD = 19.3±0.80 nM) which significantly decreased in affinity in the presence of GTP (KD = 30.5±2.6 nM; P < 0.05). No significant change in Bmax was observed These findings indicate the presence of Gi-coupled BZ receptors in the rat striatum. Thus, suppression of cAMP production may contribute to the diverse neuropharmacol. effects of BZs, melatonin and related drugs.
IT 93515-90-5, 2-Iodomelatonin
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(PK 11195 blockade of benzodiazepine-induced inhibition of forskolin-stimulated adenylate cyclase activity in striatum)
RN 93515-90-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 93 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:577844 HCAPLUS Full-text
DOCUMENT NUMBER: 125:266035
ORIGINAL REFERENCE NO.: 125:49397a,49400a
TITLE: Melatonin derivatives for treatment of circadian rhythm disorders
INVENTOR(S): Fraschini, Franco; Stankov, Bojidar; Borgonovo, Margherita; Introini, Carlo; Laguzzi, Aldo; Duranti, Ermanno; Moni, Maria T.
PATENT ASSIGNEE(S): Instituto Farmacologico Lombardo-Iflo, S.A.S., Italy
SOURCE: U.S., 20 pp., Cont.-in-part of U.S. Ser. No. 80,742, abandoned.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 3
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.		DATE	
US 5552428	A	19960903	US 1994-196380		19940215	<--
PRIORITY APPLN. INFO.:			IT 1992-MI1556	A	19920624	<--
			IT 1992-MI1612	A	19920701	<--
			US 1993-80742	B2	19930622	<--
			US 1993-85392	B2	19930630	<--

OTHER SOURCE(S): MARPAT 125:266035
ED Entered STN: 28 Sep 1996
GI

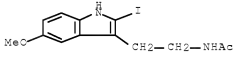


AB Melatonin derivs. (I; R = iso-Pr, cyclohexyl, Ph, Me, Br, I; R1 = Me, cyclopropyl; R2 = H, Br) exhibit superior activity in the treatment of pathologies which interfere with the circadian rhythm (e.g. jet lag, delayed sleep phase syndrome) when administered transdermally to provide continuous blood bioavailability over .apprx.8 h. Thus, 2-bromo-N-cyclopropanoyl-5-methoxytryptamine (II) behaved as a selective melatonin agonist in the rabbit parietal cortex in situ, with a receptor affinity .apprx.5 times that of melatonin. II had a pharmacol. profile in the rat suprachiasmatic nucleus suggesting the existence of a novel receptor type. Some of the compds. were

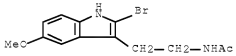
prepared by a modified Madelung synthesis of 2-substituted indoles, coupling with 1-dimethylamino-2- nitroethylene to give nitrovinylindoles, followed by LiAlH4 reduction and acylation.,. A transdermal composition contained II 0.2, Carbomer 940 4, Carbomer 1238 4, EtOH 50, imidazolidinylurea 3, glycerin 20, TEA 10, hydrogenated ethoxylated castor oil 2, cyclomethicone 1, alkyl benzoate 1, isodamascone 0.3, and H2O to 1000 g.

IT 93515-00-5P, 2-Iodomelatonin 142959-59-9P
155443-53-1P
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); SPN (Synthetic preparation); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation); USES (Uses)
(melatonin derivs. for treatment of circadian rhythm disorders)

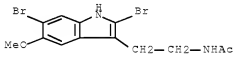
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



RN 142959-59-9 HCAPLUS
CN Acetamide, N-[2-(2-bromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



RN 155443-53-1 HCAPLUS
CN Acetamide, N-[2-(2,6-dibromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

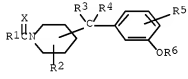


L43 ANSWER 94 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:473179 HCAPLUS Full-text
DOCUMENT NUMBER: 125:142563
ORIGINAL REFERENCE NO.: 125:26681a,26684a
TITLE: Preparation of (3-alkoxybenzyl)piperidine derivatives as melatonergic agents
INVENTOR(S): Mattson, Ronald J.; Keavy, Daniel J.; Catt, John D.
PATENT ASSIGNEE(S): Bristol-Myers Squibb Company, USA
SOURCE: Eur. Pat. Appl., 15 pp.

CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 718286	A1	19960626	EP 1995-402861	19951218 <--
EP 718286	B1	19980729		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
US 5530012	A	19960625	US 1994-362337	19941222 <--
AT 169000	T	19980815	AT 1995-402861	19951218 <--
ES 2121617	T3	19981201	ES 1995-402861	19951218 <--
CA 2165603	A1	19960623	CA 1995-2165603	19951219 <--
AU 9540599	A	19960627	AU 1995-40599	19951221 <--
AU 691057	B2	19980507		
JP 08208603	A	19960813	JP 1995-333564	19951221 <--

PRIORITY APPLN. INFO.: US 1994-362337 A 19941222 <--
OTHER SOURCE(S): CASREACT 125:142563; MARPAT 125:142563
ED Entered STN: 10 Aug 1996
GI



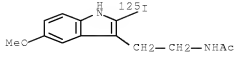
I

AB Title compds. I (R1 = lower C1-4 alkyl, C2-4 alkenyl, C3-6 cycloalkyl, NR7R8, R7, R8 = H, C1-4 alkyl but not both H; R2, R3, R4 = H, C1-4 alkyl; R5 = H, C1-4 alkyl, halo, CF3; R6 = C1-4 alkyl; X = O, S; benzyl group attached to 3 or 4 position of piperidine ring) having melatonergic properties (no data) are claimed. They are believed useful in treating depression, jet-lag, work-shift syndrome, sleep disorders, glaucoma, some disorders associated with reproduction, cancer, immune disorders and neuroendocrine disorders (no data). In an example, reaction of cyclopropanecarboxylic acid chloride 4.40 mmol with 4-[(2-fluoro-5- methoxyphenyl)methyl]piperidine 4.07 mmol in dry MeCN 20 mL containing K2CO3 11.9 mmol, followed by aqueous quench and workup gave 91% 1-(cyclopropylcarbonyl)4-[(2-fluoro-5-methoxyphenyl)methyl]piperidine.

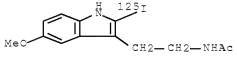
IT 140671-15-4
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(preparation of (alkoxybenzyl)piperidine derivs. as melatonergic agents)

RN 140671-15-4 HCAPLUS

CN Acetamide, N-[2-[2-(iodo-125I)-5-methoxy-1H-indol-3-yl]ethyl]- (9CI) (CA INDEX NAME)

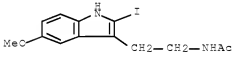


L43 ANSWER 95 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:450614 HCAPLUS Full-text
DOCUMENT NUMBER: 125:133323
ORIGINAL REFERENCE NO.: 125:24733a
TITLE: Identification of 2-[125I] iodomelatonin binding sites in the thymus of mice and its significance
AUTHOR(S): Liu, Zhimin; Ying, Zhao; Peng, Shuxun
CORPORATE SOURCE: Chang Zheng Hospital, Second Military Medical University, Shanghai, 200003, Peop. Rep. China
SOURCE: Science in China, Series B: Chemistry, Life Sciences, & Earth Sciences (1995), 38(12), 1455-1461
CODEN: SCBSE5; ISSN: 1001-652X
PUBLISHER: Science Press
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 31 Jul 1996
AB The melatonin binding sites in membrane prepns. of the mouse thymus were demonstrated using 2-[125I] iodomelatonin as a radioligand. The binding sites were stable, saturable, reversible and of high affinity. Studies on specificity of 2-[125I] iodomelatonin binding suggested that the 2-[125I] iodomelatonin binding sites are highly specific for melatonin. These binding sites fulfilled the standard criteria for receptors. Our work suggested that melatonin should have direct regulatory action on immune system mediated through the melatonin binding sites. Studies showed that there existed a circadian rhythm in the binding capacity for 2-[125I] iodomelatonin in the mouse thymus with peak values at 12:00-16:00 and trough values between 00:00 and 4:00. The subcellular distribution of 2-[125I] iodomelatonin binding sites in the mouse thymus was in the following descending order: nuclear>mitochondrial>microsomal>cytosolic fraction. There was also an age-related decrease in 2-[125I] iodomelatonin binding in the mouse thymus. This is correlated with the involution of the thymus.
IT 140671-15-4
RL: ARG (Analytical reagent use); ANST (Analytical study); USES (Uses) (as ligand for melatonin receptors)
RN 140671-15-4 HCAPLUS
CN Acetamide, N-[2-[2-(iodo-125I)-5-methoxy-1H-indol-3-yl]ethyl]- (9CI) (CA INDEX NAME)



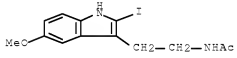
L43 ANSWER 96 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:395153 HCAPLUS Full-text
DOCUMENT NUMBER: 125:157739
ORIGINAL REFERENCE NO.: 125:29215a,29218a
TITLE: Structure-activity relationships for substrates and inhibitors of pineal 5-hydroxytryptamine-N-acetyltransferase: preliminary studies
AUTHOR(S): Shen, Shuren; Bremont, Beatrice; Serraz, Isabelle;

Andrieux, Jean; Poncet, Annie; Mathe-Allainmat, Monique; Chanut, Evelyne; Trouvin, Jean-Hugues; Langlois, Michel
CORPORATE SOURCE: BIOCIS-CNRS (URA 1843), Faculte de Pharmacie, 5 rue J.B. Clement, 92296, Chatenay-Malabry, Fr.
SOURCE: European Journal of Pharmacology (1996), 307(2), 133-140
CODEN: EJPHAZ; ISSN: 0014-2999
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 10 Jul 1996
AB Tryptamine, (1-naphthyl)ethylamine, and phenethylamine derivs. were tested as substrates of ovine pineal serotonin-N-acetyltransferase (5-HT-NAT), a key enzyme involved in the synthesis of melatonin. Almost all of the indole derivs. possessed affinity similar to that of tryptamine (Km = 0.05 mM), while the substituted naphthalene and Ph derivs. were less potent. However, the Km values seem be influenced by the steric hindrance and polar properties of the substituent. Vmax values for the naphthyl and Ph derivs. were generally 10-20-fold higher than those of the indole derivs. and no clear structure-activity relation was observed Melatonin and several bioisosteric derivs. were shown to be inhibitors of 5-HT-N- acetyltransferase. Preliminary data suggested that over the 5-50 μM concentration range, melatonin was a competitive inhibitor (IC50 = 10 μM) with a concentration-dependent inhibitory effect on its own synthesis in the pineal gland. However, the bioisosteric naphthalene derivs. were characterized instead as mixed inhibitors. (1-Naphthyl)ethylacetamide, a putative melatoninergic antagonist, was also shown to be an inhibitor of 5-HT-N-acetyltransferase (IC = 8 M) and is a promising tool for the regulation of melatonin synthesis and the understanding of its role.
IT 93515-00-5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(structure-activity relationships for substrates and inhibitors of pineal 5-hydroxytryptamine-N-acetyltransferase)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

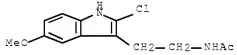


L43 ANSWER 97 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:361403 HCAPLUS Full-text
DOCUMENT NUMBER: 125:105318
ORIGINAL REFERENCE NO.: 125:19474h,19475a
TITLE: A rhodopsin-based model for melatonin recognition at its G protein-coupled receptor
AUTHOR(S): Navajas, Cecil; Kokkola, Tarja; Poso, Antti; Honka, Nina; Gynther, Jukka; Laitinen, Jarmo T.
CORPORATE SOURCE: Department of Pharmaceutical Chemistry, University of Kuopio, P.O.B. 1627, FIN-70211, Kuopio, Finland
SOURCE: European Journal of Pharmacology (1996),

304(1-3), 173-183
CODEN: EJPHAZ; ISSN: 0014-2999
PUBLISHER: Elsevier
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 21 Jun 1996
AB The recent elucidation of the primary structures of different melatonin receptors as well as the deduction of the secondary structure of rhodopsin has allowed the authors to construct a model for melatonin recognition at its G protein-coupled receptor. To achieve this, the authors have used the quantum mechanics method Austin model 1 to fully optimize the structures of melatonin and several analogs. The authors also synthesized three compds. and used the three-dimensional anal. comparative mol. field anal. (CoMFA) to generate a model for the structure-activity relationships of melatonin and 27 melatonin-like compds. This model predicted with good accuracy the affinities of the synthesized compds. for the melatonin receptor. The authors propose that recognition of the functional moieties of melatonin occurs through specific interaction of these moieties with fully conserved amino acid residues present in transmembrane helixes V, VI and VII of the melatonin receptor. These residues are not found in other members of the G protein-coupled receptor family. The rhodopsin-based model can explain the importance of some structural features of melatonin and related active compds.
IT 93515-00-5 118747-02-7
RL: BPR (Biological process); BSU (Biological study, unclassified); PRP (Properties); BIOL (Biological study); PROC (Process)
(a rhodopsin-based model for melatonin recognition at its G protein-coupled receptor)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

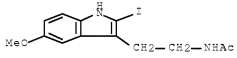


RN 118747-02-7 HCAPLUS
CN Acetamide, N-[2-(2-chloro-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 98 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:343080 HCAPLUS Full-text
DOCUMENT NUMBER: 125:26675
ORIGINAL REFERENCE NO.: 125:5055a,5058a
TITLE: Melatonin receptors activate heteromeric G-protein coupled Kir3 channels
AUTHOR(S): Nelson, Cole S.; Marino, Jennifer L.; Allen, Charles

N.
CORPORATE SOURCE: Center Research Occupational and Environmental Toxicology, Oregon Health Science University, Portland, OR, 97201, USA
SOURCE: NeuroReport (1996), 7(3), 717-720
CODEN: NERPEZ; ISSN: 0959-4965
PUBLISHER: Rapid Science Publishers
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 14 Jun 1996
AB The effects of melatonin on circadian pacemaker activity in the central nervous system may be the result of melatonin receptor activation of G-protein coupled potassium channels which inhibit the action potential firing of neurons. Xenopus laevis and humanla melatonin receptors stimulated heteromeric G-protein activated inwardly rectifying potassium channels (Kir3.1/Kir3.2) when expressed in vitro in oocytes. Pertussis toxin reduced iodomelatonin (87.1% reduction) and melatonin (90.3% reduction) stimulated currents in a time-dependent manner for cells expressing X. laevis receptors. A similar pertussis toxin inhibition was observed for human melatonin receptors (melatonin, 78.9% reduction). This suggests a potential role for heteromeric Kir3 channels in the receptor-mediated actions of melatonin in vivo.
IT 93515-00-5
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(melatonin receptors activate heteromeric G-protein coupled Kir3 channels)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

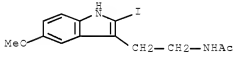


L43 ANSWER 99 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1996:267285 HCAPLUS Full-text
DOCUMENT NUMBER: 124:333337
ORIGINAL REFERENCE NO.: 124:61589a,61592a
TITLE: New molecules active at the melatonin receptor level
AUTHOR(S): Fraschini, Franco; Stankov, Bojidar
CORPORATE SOURCE: University of Milan, Milan, 20129, Italy
SOURCE: NATO ASI Series, Series A: Life Sciences (1995), 277(Pineal Gland and Its Hormones), 131-8
CODEN: NALSDJ; ISSN: 0258-1213
PUBLISHER: Plenum
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 07 May 1996
AB A series of synthetic melatonin analogs were tested for biol. activity (Syrian hamster gonadal regression, electrophysiol. responses of the rabbit parietal cortex, and forskolin-stimulated cAMP accumulation in neonatal rat adenopituitaries) and quail brain melatonin receptor binding. The study indicates (1) the N-acetyl group is important for receptor binding and biol. activity; (2) methylation, halogenation and substitution with an aromatic ring

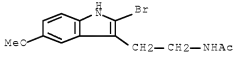
at C2 of the indole nucleus increased receptor binding affinity and had variable results on biol. activity; (3) the 5-methyoxyl group of melatonin is a prominent factor for binding affinity, but is not essential for agonist activity.

IT 93515-00-5 142959-59-9 155443-53-1
RL: BAC (Biological activity or effector, except adverse); BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(melatonin receptor binding and melatonin agonist and antagonist activity)

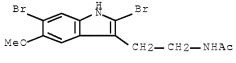
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



RN 142959-59-9 HCAPLUS
CN Acetamide, N-[2-(2-bromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



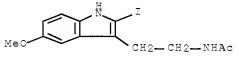
RN 155443-53-1 HCAPLUS
CN Acetamide, N-[2-(2,6-dibromo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 100 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

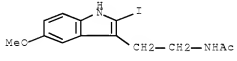
ACCESSION NUMBER:	1996:196640 HCAPLUS Full-text
DOCUMENT NUMBER:	124:227414
ORIGINAL REFERENCE NO.:	124:42029a,42032a
TITLE:	Comparison of the pharmacological characteristics of 2-[125I]iodomelatonin binding sites in the lung, spleen, brain and kidney of chicken
AUTHOR(S):	Pang, Celia S.; Tang, Pak, L.; Pang, Shiu, F.; Brown, Gregroy M.
CORPORATE SOURCE:	Clarke Inst. of Psychiatry, Toronto, Can.
SOURCE:	Biological Signals (1996), Volume Date 1995,

4(6), 311-24
CODEN: BISIEH; ISSN: 1016-0922
PUBLISHER: Karger
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 05 Apr 1996
AB The authors have compared the pharmacol. characteristics of 2-[125I]iodomelatonin binding to crude membrane prepns. of the lung, spleen, brain and kidney of chicken. Saturation studies indicated significant differences in the equilibrium dissociation constant (Kd) and maximum number of binding site (Bmax) values among the four tissues studied. The descending order of affinities was lung = spleen > kidney. Competition curves of 2-[125I]iodomelatonin binding to crude membrane prepns. of all four chicken tissues by melatonin were studied simultaneously to reduce individual, physiol., age and interassay variations. Similar competition expts. were also performed on 2-phenylmelatonin, 2-iodomelatonin, 6-chloromelatonin, 6-hydroxymelatonin, and n-acetylserotonin (NAS). Concns. of indoles which inhibited 50% of specific 2-[125I]iodomelatonin binding (IC50) were calculated The IC50 of 2-[125I]iodomelatonin inhibition curves by the indole compds. in different tissues showed the following descending orders of affinity: (1) melatonin:lung = spleen > brain > kidney, (2) 2-phenylmelatonin: lung = spleen = brain = kidney, (3) 2-iodomelatonin: lung = spleen = kidney > brain, (4) 6-chloromelatonin: lung = spleen = kidney > brain, (5) 6-hydroxymelatonin: kidney > lung = spleen = brain, and (6) NAS: kidney > lung = spleen > brain. The non-hydrolyzable GTP analog, guanosine 5'-O-(3-thiotriphosphate) (GTPγS) increased the Kd of 2-[125I]iodomelatonin binding by 2- to 3-fold in the lung and spleen, 0.5-fold in the brain and 1-fold in the kidney. Based on the findings, the authors would like to suggest that the 2-[125I]iodomelatonin binding sites in these four tissues may belong to three different high affinity (picomolar) subtypes of melatonin receptor. The authors name them cML1A represented by the lung and spleen, cML1B by the brain cML1A represented by the lung and spleen, cML1B by the brain and cML1C by the kidney.
IT 93515-00-5, 2-Iodomelatonin
RL: BPR (Biological process); BSU (Biological study, unclassified); BIOL (Biological study); PROC (Process)
(comparison of the pharmacol. characteristics of 2-[125I]iodomelatonin binding sites in the lung, spleen, brain and kidney of chicken)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

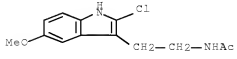


L43 ANSWER 144 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1992:80858 HCAPLUS Full-text
DOCUMENT NUMBER: 116:80858
ORIGINAL REFERENCE NO.: 116:13687a,13690a
TITLE: Aggregation of pigment granules in single cultured Xenopus laevis melanophores by melatonin analogs

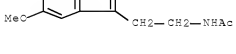
AUTHOR(S): Sugden, D.
CORPORATE SOURCE: Biomed. Sci. Div., King's Coll. London, London, W8 7AH, UK
SOURCE: British Journal of Pharmacology (1991), 104(4), 922-7
CODEN: BJPCBM; ISSN: 0007-1188
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 06 Mar 1992
AB Isolated melanophores were differentiated from aggregates of neural crest obtained from neurula stage X. laevis embryos after 2 days in culture. Condensation of pigment granules in these cells by melatonin (aMT) and various novel analogs was monitored with an image anal. system to quantitate the area occupied by pigment in individual cells. Melanophores exposed to vehicle (a maximum of 0.1% MeOH) showed little (<5%) change in pigment area. The aMT produced a dramatic condensation of pigment granules (EC50 = the concentration producing a half maximal condensation, 9 pM). The response was rapid, reached a maximum (.apprx.80% decrease in pigmented area) by 10 min, and was reversible after removal of aMT from the culture medium. Aggregation to aMT was blocked by treating melanophores with pertussis toxin (1 μg/mL, 7 h) indicating a role for a GTP-binding protein in transducing the aMT receptor signal. Structure-activity studies indicated that analogs of aMT lacking a side-chain N-acyl substituent (5-methoxytryptamine) or a group at the 5-position of the indole ring (N-acetyltryptamine) were unable to induce pigment aggregation (EC50 > 10 μM). Lengthening the side-chain N-acyl group (N-propionyl, N-butanoyl) was tolerated to some degree but eventually (N-valeroyl and larger) activity diminished. Of the 5-position analogs tested 5-methoxy (aMT) was by far the most potent. Halogen substitution in the 6-position of the indole ring led to some loss of activity as did a 6-OH substitution. The 6-OCH3 compound was inactive. These studies demonstrate the utility of this model in investigations of structure-activity relationships at the aMT receptor and suggest that it may be a valuable system for determining the transduction mechanisms coupled to the aMT receptor.
IT 93515-00-5, 2-Iodomelatonin 118747-02-7, 2-Chloromelatonin
RL: BIOL (Biological study)
(pigment granule aggregation in melanophore of amphibian response to, structure in relation to)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



RN 118747-02-7 HCAPLUS
CN Acetamide, N-[2-(2-chloro-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

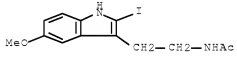


L43 ANSWER 145 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1992:38200 HCAPLUS Full-text
DOCUMENT NUMBER: 116:38200
ORIGINAL REFERENCE NO.: 116:6465a,6468a
TITLE: Identification and characterization of melatonin binding sites in the gastrointestinal tract of ducks
AUTHOR(S): Lee, Peter P. N.; Pang, Shiu F.
CORPORATE SOURCE: Dep. Physiol., Univ. Hong Kong, Hong Kong, Hong Kong
SOURCE: Life Sciences (1992), 50(2), 117-25
CODEN: LIFSAK; ISSN: 0024-3205
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 08 Feb 1992
AB Utilizing 2-[125I]iodomelatonin as the radioligand, melatonin-binding sites were identified and characterized in the jejunum of ducks (Anas platyrhynchos). These sites were found to be reversible, saturable, specific, and exhibited high affinity for melatonin. Scatchard analyses have established the equilibrium dissociation constant (Kd) for tissues collected during mid-photophase to be 40.9 pM and the maximum quantity of binding sites (Bmax) to be 2.0 fmol/mg protein while Kd of samples collected during mid-scotophase was 54.1 pM with a corresponding Bmax of 1.5 fmol/mg protein. These Kd values are in good proximity to the kinetically derived equilibrium dissociation constant of 47.3 pM. No significant difference in Kd or Bmax was detected between the mid-light and mid-dark samples. Pharmacol. profile of these binding sites, developed by their interactions with other indoles and compds., indicated that these binding sites are highly specific for melatonin. Subcellularly, different densities of binding sites were localized to various fractions in the following order: nuclear > microsomal > mitochondrial > cytosolic. These binding sites in the jejunum might be the receptors accountable for promoting paracrine activities for the locally synthesized gastrointestinal melatonin and(or) responsible for eliciting hormonal actions via interactions with melatonin of pineal origin.
IT 93515-00-5, 2-Iodomelatonin
RL: PROC (Process)
(receptor binding of, in jejunum of duck)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 146 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1992:34907 HCAPLUS Full-text
DOCUMENT NUMBER: 116:34907
ORIGINAL REFERENCE NO.: 116:5813a,5816a
TITLE: Inhibitory action of melatonin and structurally related compounds on testosterone production by mouse Leydig cells in vitro
AUTHOR(S): Persengiev, S.; Kekhaiova, I.

CORPORATE SOURCE: Dep. Immunoneuroendocrinol., Inst. Biol. Immunol. Reprod., Sofia, 1113, Bulg.
SOURCE: Cell Biochemistry and Function (1991), 9(4), 281-6
CODEN: CBFUDH; ISSN: 0263-6484
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 08 Feb 1992
AB The possible effect of melatonin, 5-methoxytryptamine, 5-methoxytryptophol, 6-chloromelatonin and 2-iodomelatonin on testosterone production by Leydig cells in vitro was investigated. The ability of individual indoles to inhibit testosterone production depended on the concentration used. The relative inhibitory potency of the compds. tested was: 6-chloromelatonin > 2-iodomelatonin > melatonin > 5-methoxytryptamine > 5-methoxytryptophol. Natural indoles which are synthesized in the pineal gland and their halogenized derivs. are capable of influencing directly testosterone production by Leydig cells. These results demonstrated that melatonin exerts its remarkable antigonadotropic effects, at least in part, through the direct decrease of testosterone production Moreover, 6-chloromelatonin and 2-iodomelatonin, which are reported to inhibit melatonin binding to target tissues, possess properties of biol. melatonin analogs under the conditions of the model system used.
IT 93515-00-5, 2-Iodomelatonin
RL: BIOL (Biological study)
(testosterone formation by Leydig cells inhibition by)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



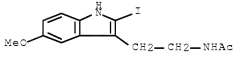
L43 ANSWER 147 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1991:628691 HCAPLUS Full-text
DOCUMENT NUMBER: 115:228691
ORIGINAL REFERENCE NO.: 115:38894h,38895a
TITLE: Quantitative pharmacological analysis of 2-125I-iodomelatonin binding sites in discrete areas of the chicken brain
AUTHOR(S): Siuciak, J. A.; Krause, D. N.; Dubocovich, M. L.
CORPORATE SOURCE: Med. Sch., Northwestern Univ., Chicago, IL, 60611, USA
SOURCE: Journal of Neuroscience (1991), 11(9), 2855-64
CODEN: JNRSDS; ISSN: 0270-6474
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 29 Nov 1991
AB 2-125I-iodomelatonin binding sites in the chicken brain were localized and characterized using in vitro quant. autoradiog. Binding sites were widely distributed throughout the chicken brain, predominantly in regions associated with the visual system. The specific binding of 2-125I-iodomelatonin to discrete chicken brain areas was found to be saturable, reversible, and of high affinity. The specific binding of 2-125I-iodomelatonin (75 pM) was quantitated for 40 identifiable brain regions. Eight brain regions were

chosen for binding characterization and pharmacol. anal.: optic tectum, Edinger-Westphal nucleus, oculomotor nucleus, nucleus rotundus, ventral supraoptic decussation, ventrolateral geniculate nucleus, neostriatum, and ectostriatum. These regions showed no rostral-caudal gradient in 2-125I-iodomelatonin specific binding, and saturation anal. revealed a single class of high-affinity sites with KD values in the range of 33-48 pM and receptor site d. (Bmax) rangeing from 31 to 58 fmol/mg protein. Competition expts. carried out with various indoles revealed a similar order of pharmacol. affinities in these areas: melatonin > 6-chloromelatonin > methoxyluzindole > N-acetylserotonin > luzindole » 5-HT > 5-methoxytryptamine. The affinity consts. determined by quant. autoradiog. for these compds. to compete for 2-125I-iodomelatonin binding in the optic tectum correlated well with the affinities in chicken brain membranes at 25° and 0°, chicken retinal membranes, and the potency or affinity of these compds. to affect the Ca-dependent release of [3H]dopamine from the rabbit retina. We conclude that the high-affinity sites labeled by 2-125I-iodomelatonin in various chicken brain areas have identical binding and pharmacol. characteristics to the ML-1 melatonin binding site previously described in chicken brain and retinal membranes and to the ML-1 melatonin receptor modulating dopamine release from the retina. In the chicken brain, the ML-1 receptor site may mediate functional responses regulated by melatonin.

IT 93515-00-5, 2-Iodomelatonin
RL: PROC (Process)
(binding of, by brain regions in chicken)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



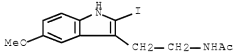
L43 ANSWER 148 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1991:527892 HCAPLUS Full-text
DOCUMENT NUMBER: 115:127892
ORIGINAL REFERENCE NO.: 115:21729a,21732a
TITLE: Guanine nucleotides regulate 2-[125I]iodomelatonin binding sites in chick retinal pigment epithelium but not in neuronal retina
AUTHOR(S): Chong, Nelson W. S.; Sugden, David
CORPORATE SOURCE: Biomed. Sci. Div., King's Coll. London, London, W8 7AH, UK
SOURCE: Journal of Neurochemistry (1991), 57(2), 685-9
CODEN: JONRA9; ISSN: 0022-3042
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 05 Oct 1991

AB The characteristics of the binding sites labeled by 2-[125I]iodomelatonin were compared in chicken neuronal retina and retinal pigment epithelium (RPE). Specific binding of 2-[125I]iodomelatonin in both sites was stable, saturable, reversible, and of high affinity. Scatchard anal. revealed an affinity constant (KD) of 446 pM and a total number of binding sites (Bmax) of 25.4 fmol/mg of protein for neuronal retina. For RPE the KD was 34.1 pM and the Bmax 59.5 fmol/mg of protein. Competition expts. with various melatonin

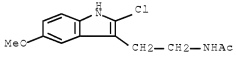
analogs gave the following order of affinities: 2-iodomelatonin > 2-chloromelatonin > melatonin > 6-chloromelatonin > 6-hydroxymelatonin > N-acetylserotonin > 6-methoxyharmalan > 5-hydroxytryptamine. Linear regression of log Ki values from neuronal retina and RPE gave a correlation coefficient r = 0.994. GTP inhibited specific binding to RPE membranes in a concentration-dependent manner, but not in neuronal retinal membranes. A single type of melatonin receptor may be found in neuronal retina and RPE. The site in RPE may be coupled to a guanine nucleotide-binding regulatory protein (G protein), but not so in the neuronal retina.

IT 93515-00-5, 2-Iodomelatonin 118747-02-7, 2-Chloromelatonin
RL: BIOL (Biological study)
(eye retina melatonin receptor binding of, GTP effects on)

RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



RN 118747-02-7 HCAPLUS
CN Acetamide, N-[2-(2-chloro-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 149 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1991:161213 HCAPLUS Full-text
DOCUMENT NUMBER: 114:161213
ORIGINAL REFERENCE NO.: 114:27191a,27194a
TITLE: [125I]iodomelatonin-binding sites in the pigeon brain: binding characteristics, regional distribution and diurnal variation
AUTHOR(S): Yuan, H.; Pang, S. F.
CORPORATE SOURCE: Dep. Physiol., Univ. Hong Kong, Hong Kong, Hong Kong
SOURCE: Journal of Endocrinology (1991), 128(3), 475-82
CODEN: JOENAK; ISSN: 0022-0795
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 May 1991
AB The binding and pharmacol. characteristics of melatonin-binding sites labeled by [125I]iodomelatonin in membrane prepns. from the pigeon (Columba livia) brain were determined Specific binding of [125I]iodomelatonin in the membrane prepns. of pigeon brain was rapid, stable, saturable, and reversible. The [125I]iodomelatonin-binding sites had the following order of pharmacol. affinities; melatonin > 6-chloromelatonin > N-acetylserotonin » 5-

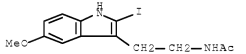
hydroxytryptamine > tryptamine > 5-methoxytryptophol, > 1-acetylindole-3-carboxytryptamine, 5-hydroxyindole-3-acetic acid, L-tryptophan, and 3-acetylindole. Compds. known to act on serotonin receptors, adrenoceptors, or cholinoceptors were inactive compared with melatonin. Of the various brain regions studied, melatonin binding was greatest in the hypothalamus, intermediate in the mid-brain, pons-medulla, and telencephalon, and low in the cerebellum. Subcellular fraction studies indicated that 39% of the binding was located in the mitochondrial fraction, 34% in the nuclear fraction, 21% in the microsomal fraction, and 5.6% in the cytosol fraction. Scatchard anal. of the membrane prepns. revealed a dissociation constant (Kd) of 206.3 pmol/L and a total number of binding sites (Bmax) of 26.7 fmol/mg protein in the middle of the light period (mid-light). In addition, saturation studies demonstrated that [125I]iodomelatonin-binding sites in pigeon brain membrane prepns. were 36.2% higher at mid-light (26.7 fmol/mg protein) than in the middle of the dark period (19.6 fmol/mg protein), with no significant variation in their binding affinities.

IT 93515-00-5

RL: BIOL (Biological study)
(receptor binding of, in brain of pigeon, diurnal rhythm in relation to)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 150 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER:	1991:75534 HCAPLUS Full-text
DOCUMENT NUMBER:	114:75534
ORIGINAL REFERENCE NO.:	114:12727a,12730a
TITLE:	Pharmacological identity of 2-[125I]iodomelatonin binding sites in chicken brain and sheep pars tuberalis
AUTHOR(S):	Sugden, David; Chong, Nelson W. S.
CORPORATE SOURCE:	Biomed. Sci. Div., King's Coll., London, UK
SOURCE:	Brain Research (1991), 539(1), 151-4 CODEN: BRREAP; ISSN: 0006-8993
DOCUMENT TYPE:	Journal
LANGUAGE:	English

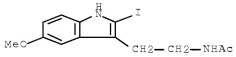
ED Entered STN: 09 Mar 1991

AB 2-[125I]Iodomelatonin was used to compare the binding and pharmacol. characteristics of the melatonin receptor sites found in chicken brain and sheep pars tuberalis. Scatchard anal. and kinetic expts. showed that 2-[125I]iodomelatonin binds to a single class of site in both tissues with high affinity (Kd 20-34 pM). Competition expts., using 21 analogs of melatonin, gave inhibition consts. (Ki) for the 2 sites which were significantly correlated. Evidently, the 2-[125I]iodomelatonin binding sites in sheep pars tuberalis and chicken brain have identical binding and pharmacol. characteristics.

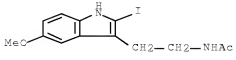
IT 93515-00-5, 2-Iodomelatonin

RL: BIOL (Biological study)
(receptor binding of, in brain of chicken and pars tuberalis of sheep, pharmacol. characterization in relation to)

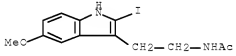
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 151 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1991:75515 HCAPLUS Full-text
DOCUMENT NUMBER: 114:75515
ORIGINAL REFERENCE NO.: 114:12723a,12726a
TITLE: Pharmacological inhibition of forskolin-stimulated adenylate cyclase activity in rat brain by melatonin, its analogs, and diazepam
AUTHOR(S): Niles, Lennard P.; Hashemi, Fereshteh S.
CORPORATE SOURCE: Dep. Biomed. Sci., McMaster Univ., Hamilton, ON, L8N 3Z5, Can.
SOURCE: Biochemical Pharmacology (1990), 40(12), 2701-5
CODEN: BCPCA6; ISSN: 0006-2952
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 09 Mar 1991
AB Preincubation of rat forebrain membranes for 30-60 min with micromolar concns. of the melatonin inhibited forskolin-stimulated adenylate cyclase (AC) activity. Melatonin had an EC25 (concentration which inhibited AC activity by 25%) of 600 μM and caused a maximal inhibitory effect of .apprx.30% at a concentration of 1000 μM. A comparison of the effects of melatonin and of its analogs, 6-chloromelatonin and 2-iodomethatonin, in the striatum revealed that these halogenated drugs were 2-3-fold more potent than melatonin in inhibiting AC activity. The EC25 values were 611, 226, and 189 μM for melatonin, 6-chloromelatonin, and 2-iodomelatonin, resp. The receptor antagonists phentolamine (α-adrenergic), propranolol (β-adrenergic), and metergoline (serotonergic) did not block the effect of melatonin in forebrain membranes. The central-type benzodiazepine antagonist Ro 15-1788 (flumazenil) also failed to block the inhibitory effects of melatonin and of the benzodiazepines, diazepam and Ro 5-4864, on AC activity. Evidence that inhibition of adenylate cyclase activity may be involved in the prevention of seizures suggests that the reported anticonvulsant effect of large doses of melatonin may be due to this mechanism. The greater potency of the halogenated melatonin analogs in inhibiting AC suggests their potential usefulness as anticonvulsants.
IT 93515-00-5, 2-Iodomelatonin
RL: BIOL (Biological study)
(adenylate cyclase of brain inhibition by)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 152 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1990:435138 HCAPLUS Full-text
DOCUMENT NUMBER: 113:35138
ORIGINAL REFERENCE NO.: 113:5869a,5872a
TITLE: Autoradiographic localization of 2-[125I]iodomelatonin binding sites in the brains of C3H/HeN and C57BL/6J strains of mice
AUTHOR(S): Siuciak, Judith A.; Fang, Jun Ming; Dubocovich, Margarita L.
CORPORATE SOURCE: Med. Sch., Northwestern Univ., Chicago, IL, 60611, USA
SOURCE: European Journal of Pharmacology (1990), 180(2-3), 387-90
CODEN: EJPHAZ; ISSN: 0014-2999
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 03 Aug 1990
AB The present study uses in vitro autroradiog. to localize 2-[125I]iodomelatonin binding sites in the brains of 2 strains of mice, the C3H/HeN and the C57BL/6J, which have been shown to exhibit differences in pineal melatonin content. A differential pattern of distribution of 2-[125I]iodomelatonin binding sites was found between the 2 strains, with the suprachiasmatic nucleus, paraventricular nucleus of the thalamus, and the median eminence/pars tuberalis regions labeled in both strains. These studies should help to interpret behavior changes due to activation of melatonin receptors in these strains of mice.
IT 93515-00-5, 2-Iodomelatonin
RL: BIOL (Biological study)
(binding sites for, of brain in mouse, strain differences in)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



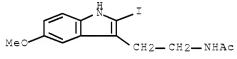
L43 ANSWER 153 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1989:509432 HCAPLUS Full-text
DOCUMENT NUMBER: 111:109432
ORIGINAL REFERENCE NO.: 111:18215a,18218a
TITLE: Antigonadal activity of the melatonin analogs 2-iodomelatonin and 2-chloromelatonin in the juvenile Djungarian hamster, Phodopus sungorus campbelli
AUTHOR(S): Sugden, David
CORPORATE SOURCE: Dep. Physiol., King's Coll., London, W8 7AH, UK
SOURCE: Journal of Pineal Research (1989), 7(2), 205-9
CODEN: JPRSE9; ISSN: 0742-3098
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 01 Oct 1989

AB The antigonadal effects of daily (20 µg, s.c.) injection of melatonin and 2 analogs, 2-iodomelatonin and 2-chloromelatonin, were compared in juvenile Djungarian hamsters housed under long photoperiod (L:D 16:8). Melatonin, 2-iodomelatonin, and 2-chloromelatonin injected 3 h before lights off for 16 days (17-34 days of age) inhibited testis growth compared to vehicle-injected hamsters. In addition, melatonin and both analogs reduced body weight gain. These 2-substituted analogs appear to be melatonin agonists with a potency in vivo similar to the parent compound, melatonin.

IT 93515-00-5, 2-Iodomelatonin 118747-02-7, 2-Chloromelatonin
RL: BIOL (Biological study)
(testes antagonism by)

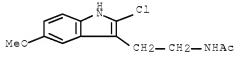
RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



RN 118747-02-7 HCAPLUS

CN Acetamide, N-[2-(2-chloro-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 154 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1989:418098 HCAPLUS Full-text

DOCUMENT NUMBER: 111:18098

ORIGINAL REFERENCE NO.: 111:3075a,3078a

TITLE: High-affinity binding sites for melatonin in hamster spleen

AUTHOR(S): Niles, L. P.

CORPORATE SOURCE: Dep. Biomed. Sci., McMaster Univ., Hamilton, ON, L8N 3Z5, Can.

SOURCE: Medical Science Research (1989), 17(4), 179-80
CODEN: MSCREJ; ISSN: 0269-8951

DOCUMENT TYPE: Journal

LANGUAGE: English

ED Entered STN: 21 Jul 1989

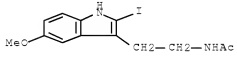
AB The presence of putative receptor sites for melatonin in the hamster spleen was investigated using 2-[125I]-iodomelatonin. Scatchard anal. indicated a high-affinity site with a dissociation constant (Kd) of 2 nM and a binding d. (Bmax) of 92 fmol/mg protein. Inhibition expts. revealed a rank order of potency for indoleamines: 2-iodomelatonin > melatonin > 6-chloromelatonin > N-acetylserotonin >>> serotonin. The α1-adrenergic antagonist prazosin also showed high affinity for melatonin binding sites. The relevance of these

melatonin binding sites in the spleen to the hormones immunomodulatory effects is discussed.

IT 93515-00-5, 2-Iodomelatonin
RL: BIOL (Biological study)
(spleen receptors binding by iodomelatonin inhibition by)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 155 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1989:186426 HCAPLUS Full-text

DOCUMENT NUMBER: 110:186426

ORIGINAL REFERENCE NO.: 110:30771a,30774a

TITLE: 2-[3125I]iodomelatonin labels sites with identical pharmacological characteristics in chicken brain and chicken retina

AUTHOR(S): Dubocovich, Margarita L.; Shankar, Geetha; Mickel, Melissa

CORPORATE SOURCE: Med. Sch., Northwestern Univ., Chicago, IL, 60611, USA

SOURCE: European Journal of Pharmacology (1989), 162(2), 289-99
CODEN: EJPHAZ; ISSN: 0014-2999

DOCUMENT TYPE: Journal; General Review

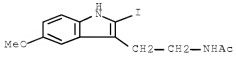
LANGUAGE: English

ED Entered STN: 26 May 1989

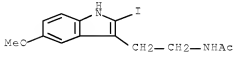
AB The binding and pharmacol. characteristics of the melatonin site labeled by the radioligand 2-[125I]iodometlatonin in chicken brain membranes were determined and compared with those of the melatonin site of chicken retinal membranes. The specific binding of 2-[125I]iodomeltaonin to chicken brain membranes was found to be stable, saturable, reversible, and of high affinity. Scatchard anal. of the binding revealed an affinity constant (Kd) of 344 pM and a total number of binding sites (Bmax) of 57.6 fmol/mg protein. The Kd value corresponded closely with that found in kinetic studies (Kd = 407 pM) and that reported in chicken retinal membranes. Competition expts. were carried out with various compds. revealing the following order of pharmacol. affinities: 6-chloromelatonin ≥ 2-iodomelatonin > melatonin > 2-methyl-6,7-dichloromelatonin > 6-hydroxymelatonin > N-acetyl-5-hydroxytryptamine > luzindole > N-acetyl-5-methooxykynurenamine > 6-methoxymelatonin > N-acetyltryptamine > 5-methoxytryptamine > 5-hydroxytryptamine > 5-methoxy-N,N-dimethyltryptamine > 5-methoxytryptophol. This order of pharmacol. affinities is identical to that found in chicken retinal membranes. Correlation between affinity consts. for various melatonin receptor agonists and putative melatonin receptor antagonists obtained in chicken brain and retinal membranes yielded a correlation coefficient of 0.966. Apparently, the high affinity site labeled by 2-[125I]iodomelatonin in chicken brain membranes has identical binding and pharmacol. characteristics to the ML-1 melatonin receptor site previously described in chicken retinal membranes.

IT 93515-00-5, 2-Iodomelatonin
RL: BIOL (Biological study)
(brain and eye retina binding of, of chicken, characterization of)

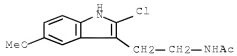
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



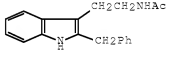
L43 ANSWER 156 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1989:69517 HCAPLUS Full-text
DOCUMENT NUMBER: 110:69517
ORIGINAL REFERENCE NO.: 110:11315a,11318a
TITLE: Melatonin analogs induce pigment granule condensation in isolated Xenopus laevis melanophores in tissue culture
AUTHOR(S): Sugden, D.
CORPORATE SOURCE: Dep. Physiol., King's Coll. London, London, W8 7AH, UK
SOURCE: Journal of Endocrinology (1989), 120(1), R1-R3
CODEN: JOENAK; ISSN: 0022-0795
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 04 Mar 1989
AB 2-Iodomelatonin, a ligand which has recently been used to identify melatonin-binding sites in the brain, produced condensation of pigment granules when added to isolated Xenopus laevis melanophores in culture. Melatonin (50% effective concentration (EC50) = 5.7 + 10-13 mol/L), 2-iodomelatonin (EC50 = 3.4 + 10-12 mol/L), and also 2-chloromelatonin (EC50 = 2.9 + 10-13 mol/L) were all potent agonists in this test. Melatonin analogs in which the side-chain was conformationally restricted by linkage to the 2-position of the indole ring were inactive (EC50 > 10-6 mol/L). The remarkable sensitivity and selectivity of this pigment condensation response suggests it will be useful in future studies of melatonin agonists and antagonists.
IT 93515-00-5, 2-Iodomelatonin 118747-02-7, 2-Chloromelatonin
RL: BIOL (Biological study)
(pigment granule condensation in melanophore induction by, structure in relation to)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



RN 118747-02-7 HCAPLUS
CN Acetamide, N-[2-(2-chloro-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 157 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1989:266 HCAPLUS Full-text
DOCUMENT NUMBER: 110:266
ORIGINAL REFERENCE NO.: 110:38h,39a
TITLE: Luzindole (N-0774): a novel melatonin receptor antagonist
AUTHOR(S): Dubocovich, Margarita L.
CORPORATE SOURCE: Med. Sch., Northwestern Univ., Chicago, IL, 60611, USA
SOURCE: Journal of Pharmacology and Experimental Therapeutics (1988), 246(3), 902-10
CODEN: JPETAB; ISSN: 0022-3565
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 06 Jan 1989
GI

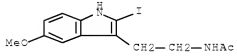


I

AB The pharmacol. potencies of 2-substituted N-acetyltryptamines were determined on the presynaptic melatonin receptor site of rabbit retina labeled in vitro with [3H]dopamine. Ca2+-dependent release of [3H]dopamine was elicited by elec. stimulation at 3 Hz for 2 min (20 mA, 2 ms). Melatonin (5-MeO-N-acetyltryptamine) and 6-chloromelatonin were equipotent in inhibiting the Ca2+-dependent release of [3H]dopamine. 2-Substituted N-acetyltryptamines with a Me (i.e., 6,7-dichloro-2-methylmelatonin) or iodine (i.e., 2-iodomelatonin) group were more potent than melatonin in inhibiting [3H]dopamine release. The pharmacol. properties of the novel N-acetyltryptamine 2-benzyl-N-acetyltryptamine (I; N-0774, luzindole) on the presynaptic melatonin receptor of rabbit retina were also studied. Luzindole (0.1-10 μM) did not affect the spontaneous outflow of radioactivity or the stimulation-evoked release of [3H]dopamine when added alone. However, luzindole (0.1-10 μM) shifted the concentration-effect curve for melatonin to the right in a parallel fashion. The pA2 extrapolated from the Schild plot (slope, 0.91) was 7.7, with a Kb = 20 nM. The dissociation consts. for luzindole (Kb), determined in the presence of 6,7-dichloro-2-methylmelatonin (10 pM-1 nM) or 6-chloromelatonin (10 pM-100 nM) were 16 and 40 nM, resp. Thus, luzindole and the various melatonin agonists are competing for the same presynaptic melatonin receptor site in the rabbit retina. In summary, 2-substituted 5-methoxy-N-acetyltryptamines (i.e., 6.7-dichloro-2-methylmelatonin, 2-iodomelatonin) are agonists, N-acetyltryptamine is a

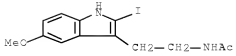
partial agonist, and 2-benzyl-N-acetyltryptamine is a competitive receptor antagonist at the presynaptic melatonin receptor of rabbit retina.

IT 93515-00-5
RL: BIOL (Biological study)
(melatonin receptor antagonism by, in retina, structure in relation to)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

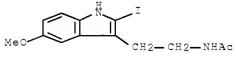


L43 ANSWER 158 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1988:216711 HCAPLUS Full-text
DOCUMENT NUMBER: 108:216711
ORIGINAL REFERENCE NO.: 108:35463a,35466a
TITLE: 2-[125I]Iodomelatonin binding sites in hamster brain membranes: pharmacological characteristics and regional distribution
AUTHOR(S): Duncan, Marilyn J.; Takahashi, Joseph S.; Dubocovich, Margarita L.
CORPORATE SOURCE: Med. Sch., Northwestern Univ., Chicago, IL, 60611, USA
SOURCE: Endocrinology (1988), 122(5), 1825-33
CODEN: ENDOAO; ISSN: 0013-7227
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 24 Jun 1988
AB Binding sites for a radioligand, 2-[125I]iodomelatonin, in brains from a photoperiodic species, the Syrian hamster, were characterized. 2-[125I]Iodomelatonin labels a high affinity binding site in hamster brain membranes. Specific binding of 2-[125I]iodomelatonin is rapid, stable, saturable, and reversible. Saturation studies demonstrated that 2-[125I]iodomelatonin binds to a single class of sites with an affinity constant (Kd) of 3.3 nM and a total binding capacity (Bmax) of 110.2 fmol/mg protein. The Kd value determined from kinetic anal. (3.1 nM) was very similar to that obtained from saturation expts. Competition expts. showed that the relative order of potency of a variety of indoles for inhibition of 2-[125I]iodomelatonin binding site to hamster brain membranes was as follows: 6-chloromelatonin ≥ 2-iodomelatonin > N-acetylserotonin ≥ 6-methoxymelatonin ≥ melatonin > 6-hydroxymelatonin ≥ 6,7-dichloro-2-methylmelatonin > 5-methoxytryptophol > 5-methoxytryptamine ≥ 5-methoxy-N,N-dimethyltrypatmine > N-acetyltrypatmine > 5-HT > 5-methoxyindole (inactive). Compds. known to act at serotonergic, adrenergic, or dopaminerigc receptors were either inactive or relatively ineffective as compared to melatonin. Apparently, 2-[125I]iodomelatonin is a selective, high affinity probe for identifying melatonin receptor binding sites in rodent brain.

IT 93515-00-5
RL: BIOL (Biological study)
(iodine-125 labeled, binding of, by brain membrane)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)

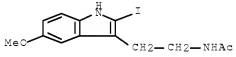


L43 ANSWER 159 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1988:124949 HCAPLUS Full-text
DOCUMENT NUMBER: 108:124949
ORIGINAL REFERENCE NO.: 108:20325a,20328a
TITLE: Iodinated melatonin mimics melatonin action and reveals discrete binding sites in fetal brain
AUTHOR(S): Weaver, David R.; Namboodiri, M. A. Aryan; Reppert, Steven M.
CORPORATE SOURCE: Child. Serv., Massachusetts Gen. Hosp., Boston, MA, 02114, USA
SOURCE: FEBS Letters (1988), 228(1), 123-7
CODEN: FEBLAL; ISSN: 0014-5793
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 15 Apr 1988
AB Iodinated melatonin was used to study melatonin sites of action in brain. Iodomelatonin mimicked the effects of melatonin on reproductive development in Djungarian hamster fetuses. 125I-melatonin injected into the dam was recovered from fetal brain. In vitro autoradiog. studies revealed a remarkably discrete distribution of competitive 125I-melatonin-binding sites in the fetal brain, with binding in median eminence/arcuate nucleus area > suprachiasmatic nucleus > pineal gland » anterior pituitary gland » preoptic area. 125I-melatonin promises to be a useful tool for understanding the sites and mechanism of action of melatonin.
IT 93515-00-5
RL: BIOL (Biological study)
(testis weight of offspring increase by prenatal maternal administration of)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 160 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1987:591455 HCAPLUS Full-text
DOCUMENT NUMBER: 107:191455
ORIGINAL REFERENCE NO.: 107:30545a,30548a
TITLE: HPLC-purified 2-[125I]iodomelatonin labels multiple binding sites in hamster brain
AUTHOR(S): Niles, L. P.; Pickering, D. S.; Sayer, B. G.
CORPORATE SOURCE: Dep. Neurosci., McMaster Univ., Hamilton, ON, L8N 3Z5, Can.

SOURCE: Biochemical and Biophysical Research Communications (1987), 147(3), 949-56
CODEN: BBRCA9; ISSN: 0006-291X
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 27 Nov 1987
AB Binding of 2-[125I]iodomelatonin in hamster brain synaptosomal membranes at 0° is rapid, saturable, reversible, and sensitive to heat and trypsin treatment. Computer resolution of curvilinear Scatchard plots yielded high- and low-affinity components with dissociation constant (Kd) and receptor affinity (Bmax) values s as follows: Kd1 = 0.32 nM and Bmax1 = 5.6 fmol/mg protein, and Kd2 = 10.5 nM and Bmax2 = 123 fmol/mg protein. Competition expts. indicated that 2-iodomelatonin and prazosin are the most potent inhibitors of high-affinity binding. Unlike prazosin, several α-adrenergic agents and various neurotransmitters were ineffective. Thus, prazosin may be a potent antagonist at a unique, non-α-adrenergic, high-affinity binding site for melatonin.
IT 93515-00-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



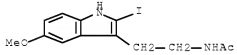
L43 ANSWER 161 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1987:490248 HCAPLUS Full-text
DOCUMENT NUMBER: 107:90248
ORIGINAL REFERENCE NO.: 107:14603a,14606a
TITLE: Regulation of melatonin's activity in the female rat brain by estradiol: effects on neurotransmitter release and on iodomelatonin binding sites
AUTHOR(S): Zisapel, Nava; Shaharabani, Miriam; Laudon, Moshe
CORPORATE SOURCE: George S. Wise Fac. Life Sci., Tel-Aviv Univ., Tel-Aviv, Israel
SOURCE: Neuroendocrinology (1987), 46(3), 207-16
CODEN: NUNDAJ; ISSN: 0028-3835
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 19 Sep 1987
AB The effects of ovariectomy and of 17β-estradiol treatment in vivo and in vitro on the ability of melatonin to inhibit dopamine release from the female rat hypothalamus and on [125I]iodomelatonin binding sites in the brains and hypothalami of female rats were investigated. In long-term (2-4 wk) ovariectomized (OVX) female rats the inhibitory effect of melatonin in vitro on dopamine release from the hypothalami was abolished. After implantation of estradiol capsules, the ability of melatonin to inhibit dopamine release from the hypothalamus was reinstated. Conversely, incubations with estradiol in vitro reduced the ability of melatonin to inhibit dopamine release from the hypothalami of intact rats at proestrus. Such incubations had no effect on the release of dopamine from hypothalami of rats at estrus or of short-term OVX (3 days) rats. The changes, in the responsiveness of the hypothalamus to

melatonin were accompanied by profound changes in the binding of [125I]iodomelatonin, to synaptosomes isolated from whole brains and from hypothalami of the OVX female rats. In OVX rats, the densities of the binding sites in the brains and particularly in the hypothalami decreased to 18 and 24%, resp., of the values observed in control females at estrus. The apparent dissociation constant of the remaining sites was significantly lower (.apprx.90 nM) than that observed in the intact controls (.apprx.300 nM). An almost complete reinstatement of the [125I]iodomelatonin binding sites was observed in synaptosomes prepared from the hypothalami of OVX rats shortly (2 h) after a single s.c. injection of estradiol, or after incubation with estradiol in vitro. The estradiol-mediated reinstatement of [125I]iodomelatonin- binding sites were less pronounced in synaptosomes prepared from whole brains. Estradiol apparently directly modulates the responses of the dopaminergic neurosecretory system in the hypothalamus to melatonin. This phenomenon may be primarily associated with the estradiol-induced changes in the d. and function of melatonin receptors in the hypothalamus, in addition, the existence of extrahypothalamic melatonin-binding sites, whose function may be indirectly regulated by ovarian hormones, is suggested.

IT 93515-00-5
RL: BIOL (Biological study)
(receptor binding of, in hypothalamus, dopamine release regulation by, estrogen modulation of)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



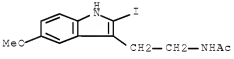
L43 ANSWER 162 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1987:472965 HCAPLUS Full-text
DOCUMENT NUMBER: 107:72965
ORIGINAL REFERENCE NO.: 107:11941a
TITLE: Use of 2-[125I]iodomelatonin to characterize melatonin binding sites in chicken retina
AUTHOR(S): Dubocovich, Margarita L.; Takahashi, Joseph S.
CORPORATE SOURCE: Dep. Pharmacol., Northwest. Univ. Med. Sch., Chicago, IL, 60611, USA
SOURCE: Proceedings of the National Academy of Sciences of the United States of America (1987), 84(11), 3916-20
CODEN: PNASA6; ISSN: 0027-8424
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 05 Sep 1987
AB 2-[125I]Iodomelatonin (I) bound with high affinity to a site possessing the pharmacol. characteristics of a melatonin receptor in chicken retinal membranes. The specific binding of I was stable, saturable, and reversible. Saturation expts. indicated that I labeled a single class of sites with an affinity constant of 434 pM and a total number of binding sites of 74.0 fmol/mg of protein. The affinity constant obtained from kinetic anal. was in close agreement with that obtained in saturation expts. Competition expts. showed a monophasic reduction of I binding with a pharmacol. order of

indoleamine affinities characteristic of a melatonin receptor: 2-iodomelatonin > 6-chloromelatonin ≥ melatonin ≥ 6,7-dichloro-2-methylmelatonin > 6-hydroxymelatonin ≥ 6-methoxymelatonin > N-acetyltryptamine > N-acetyl-5-hydroxytryptamine > 5-methoxytryptamine >>> 5-hydroxytryptamine (inactive). The affinities of these melatonin analogs in competing for I-binding sites were correlated closely with their potencies for inhibition of the Ca-dependent release of [3H]dopamine from chicken and rabbit retinas, which indicates association of the binding site with a functional response regulated by melatonin. Thus, I is a selective, high-affinity radioligand for the identification and characterization of melatonin receptor sites.

IT 93515-00-5
RL: BIOL (Biological study)
(melatonin receptor of eye retina of bird binding of)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 163 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1987:132093 HCAPLUS Full-text

DOCUMENT NUMBER: 106:132093

ORIGINAL REFERENCE NO.: 106:21411a,21414a

TITLE: Characterization of 2-[125I]iodomelatonin binding sites in hamster brain

AUTHOR(S): Duncan, Marilyn J.; Takahashi, Joseph S.; Dubocovich, Margarita L.

CORPORATE SOURCE: Med. Sch., Northwestern Univ., Chicago, IL, 60611, USA

SOURCE: European Journal of Pharmacology (1986), 132(2-3), 333-4
CODEN: EJPHAZ; ISSN: 0014-2999

DOCUMENT TYPE: Journal

LANGUAGE: English

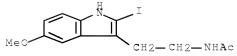
ED Entered STN: 01 May 1987

AB 125I-labeled 2-iodomelatonin [93515-00-5] was bound by brain membranes, and this binding was selective, rapid, reversible, and saturable. Affinities of several indoles for the 2-iodomelatonin binding site correlated with the reported potency of the indoles to inhibit Ca-dependent release of dopamine from rabbit retina. The binding site labeled by 2-iodomelatonin may be of physiol. significance, since it exhibited a dissociation constant (KD) of 3.8 nM and circulating levels of melatonin [73-31-4] have been reported to be in the nanomolar range.

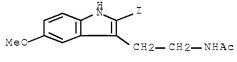
IT 93515-00-5
RL: BIOL (Biological study)
(receptors for, of brain membranes, characterization of)

RN 93515-00-5 HCAPLUS

CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



L43 ANSWER 164 OF 164 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1985:931 HCAPLUS Full-text
DOCUMENT NUMBER: 102:931
ORIGINAL REFERENCE NO.: 102:183a,186a
TITLE: Iodinated melatonin: preparation and characterization of the molecular structure by mass and proton NMR spectroscopy
AUTHOR(S): Vakkuri, Olli; Lamsa, Erkki; Rahkamaa, Erkki; Ruotsalainen, Heikki; Leppaluoto, Juhani
CORPORATE SOURCE: Dep. Physiol., Univ. Oulu, Oulu, Finland
SOURCE: Analytical Biochemistry (1984), 142(2), 284-9
CODEN: ANBCA2; ISSN: 0003-2697
DOCUMENT TYPE: Journal
LANGUAGE: English
ED Entered STN: 12 Jan 1985
AB Synthetic melatonin [73-31-4] was iodinated by treatment with KI in the presence of an oxidizing agent, Iodo-Gen. The iodination products of melatonin were extracted with CHC13 and separated by HPLC. The fraction showing immunoreactivity with respect to melatonin antisera was characterized as 2-iodomelatonin [93515-00-5] by mass spectrometry. 1H NMR spectra also showed the I to be incorporated at the C-2 position of the indole moiety. The N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]acetamide (2-iodomelatonin) reported here is more useful than [3H]melatonin as a tracer in melatonin RIA. This method offers also the possibility of preparing iodinated serotonin and other indoleamines for biol. studies.
IT 93515-00-5P
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(preparation and characterization of)
RN 93515-00-5 HCAPLUS
CN Acetamide, N-[2-(2-iodo-5-methoxy-1H-indol-3-yl)ethyl]- (CA INDEX NAME)



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L29         983 SEA ABB=ON  PLU=ON  HATTORI A?/AU
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